The Builder.

VOL. LXVIII. No. 2729 MAY 25, 1895.

ILLUSTRATIONS.

Interior of Roman Bath, Bath, as Intended to be Treated.—Mr. J. M. Brydon, F.R.I.B.A., Architect ..... *Double-Page Ink Photo.*

Pump Room Buildings, Bath; Revised Design.—Mr. J. M. Brydon, F.R.I.B.A., Architect ..... *Double-Page Ink Photo.*

Organ Case, South Transept, St. Saviour's Church, Southwark.—Sir Arthur W. Blomfield, A.R.A., F.R.I.B.A., Architect ..... *Double-Page Ink Photo.*

New Almshouses at Palmer's Green, for the Skinners' Company.—Mr. W. Campbell Jones, A.R.I.B.A., Architect ..... *Double-Page Photo-Litho.*

Blocks in Text.

Section of the Old Gewand-haus, Leipzig ..... Page 389

Plan of Almshouses at Palmer's Green, for the Skinners' Company ..... Page 395

Plan of Additions to Pump-room Buildings, Bath ..... Page 394

CONTENTS.

Domestic Architecture at the Royal Academy 387
The Old "Gewand-haus" Concert Hall, Leipzig 388
Notes 389
The Royal Institute of British Architects 391
Association of Municipal and County Engineers 392
The Pump-room Buildings, Bath 395
Organ Case, St. Saviour's Church, Southwark 395
Almshouses for the Skinners' Company, Palmer's Green, N. .. 395
The Kent Archæological Society at Darenth 395
The Architectural Association 396
The London County Council 396
Architectural Societies 396
Archæological Societies 397
"The Peisistratean Parthenon" 397
Architectural Association Sketch Book 397
Thatched Cottages in London 397
The Recent Sale of Blocks 397
Student's Column: Bricks and Terra-cotta.—XXI. 397
General Building News 398
Foreign and Colonial 398
Miscellaneous 399
Capital and Labour 399
Meetings 399
Recent Patents 400

Domestic Architecture at the Royal Academy.

AS already observed, domestic architecture is more largely represented in the Royal Academy Architectural Room this year than designs for public buildings; though even in this class there are few large houses illustrated, the majority being houses of moderate size, and small villas of a picturesque type. Of this picturesque class of house there is, in fact, a little too much at the present time, if we take the Academy show of drawings as at all a typical representation of the taste of the day; and on the whole it probably is fairly so.

There seem to be at present a large number of moderate-sized and small private houses carried out, and comparatively few of the class which are sometimes called "mansions." We are speaking not merely from the indications at the Academy, but from general observation. The desire to have a house of one's own, conforming to and expressing one's own personal taste, is probably a great deal more prevalent now than it formerly was; people who would formerly have been content with a good square-built builder's erection, if convenient and comfortable, desire now to have a home belonging to themselves and expressing some amount of architectural taste. The spread of this predilection among the middle classes of the country has led to the designing of a great number of small and medium-sized houses of late; while the erection of mansions on a large scale has become comparatively rare, probably because few persons at present have large sums of money to spare on such works. Perhaps other causes, social and political, combine to discourage the building of large family seats. The income required to build and keep up such residences depends often, to a great extent, on land, and land is felt to be a class of property very much threatened at present.

This cannot be helped, but in an architectural sense the decay of the mansion is much to be regretted. The carrying out of a large and stately house, in an adequate manner both practically and æsthetically, is one of the most interesting tasks an architect can have, especially where the owner is a man of cultivated taste, who can appreciate the architect's work. And unquestionably the comparative abandonment of house-building on a large scale means the loss of a great source of beauty and interest in English scenes.

We cannot but regret also the neglect, among the large country houses which are still built, of the element of stateliness which characterised the great mansions of the English Renaissance. In most of the large houses recently built the tendency seems to be towards the irregular picturesque. It may be urged that there is more of a homelike expression in this style of irregular design, but there is a great loss of dignity, and dignity is a fitting element in a country house of the largest class. That admiration for the English Renaissance mansion has been very much revived of late, in theory, is evident from the success attending such works as that of Mr. Gotch, and the interest which its publication excited. But in practice we seem to have nearly abandoned this method of symmetrical and stately house design, and the modern mansion, in consequence, lacks architectural unity and impressiveness, and tends to look too much like a number of smaller houses thrown together. This is what strikes us in such a design as Mr. Wallace's "Philiphaugh" (1,577), an excellent specimen of its class, and shown in a very effective drawing. The introduction of a large tower is one of the best means of dominating the mass of building in such a case, and giving it a certain unity, but in this case the tower is hardly sufficiently predominant for its purpose. The want of a plan is doubly felt in the case of a design of this kind, as there is nothing to interpret in any way the ins and outs of the external architecture, nor can we guess from the drawing whether this is an entirely new mansion or an old one treated and added to. Mr. Young's "Duncombe Park" (1,484) is the only example in the room of the palatial style of mansion. This is in the severe Classic style of English mansions; a central mass decorated with a great Tuscan order of pilasters, and flanked by carved colonnades as wings. This is stateliness on the other hand of somewhat too cold and formal a type, though of its kind it is very well carried out. There is no plan either to this. Plans of this and the last-named would have afforded an interesting comparison as to respective types of plan, the formal and the informal. The latter is no doubt far more ductile in regard to the convenient arrangement of rooms, but the former affords a far better chance for dignified architectural effect internally. What may be called the rambling type of plan is more suited to a medium-sized house than to a very large one.

These two, and an uninteresting quasi-castle in County Cork, by Messrs. Darbyshire & Smith (1,580), are the only houses of the largest class which are illustrated, as far as we have observed, in the exhibition. Messrs. Niven & Wigglesworth show, in "Teith View, near Doune" (1,460) a sketch of a tolerably large house of the modern Scotch castle type. In the country houses of medium-size it is noticeable that what may be called Domestic Gothic still keeps its place. Of this class Mr. C. J. Ferguson's "Badsworth Grange" (1,521) is one of the most important; a house in which there is a certain amount of symmetrical balance in the general treatment of the exterior, though the mullioned windows are treated and spaced very irregularly, and in the left-hand gabled wing the apparently accidental placing of the two windows has rather an awkward appearance. The quasi-Classic or Elizabethan treatment of the entrance-door seems a little out of keeping in a design in which no other detail of the kind appears. A plan is added which shows the house to be commodiously arranged internally. The octagonal porch projecting into the entrance is a very good feature from the exterior, but internally it must appear to project awkwardly into the outer hall and crowds too close upon the foot of the principal stair, the first step of which is within less than 5 ft. of it, according to scale. The author escapes, however, the difficulty of the external porch, which so often looks like an extra thing tacked on to the main building. Mr. C. J. Blomfield's house at Poulton (1,524) is another very plainly-treated house with mullioned windows, in this case all placed symmetrically and centralised, at least in the main front; this is a rather more Elizabethan type of house than the last, though in a very simple form, the only details being string-courses and ball finials on two of the gables. There is a pleasing air of repose and homeliness about it. The plan, we fear, is open to some criticism. It is rather wasteful in passages; and the kitchen window and fireplace are very badly placed for getting light to cooking operations, the only window being at the opposite side of the room to the fireplace. A kitchen fireplace should always have a side-light.

Two interiors of large halls may be noticed. Messrs. Ernest George & Peto's hall at "North Mymms, Herts" (1,512) shows an interior with a large projecting stone fireplace with a carved frieze on it, and a landing with balustrade in pierced woodwork, making a bridge over the hall. The detail of this is rather slight in comparison with the massive style of the rest of the work, and seems a little out of keeping with an otherwise effective interior. The other drawing referred to is Mr. Goldie's hall at "Ashorne Hill House" (1,435), an interior of Elizabethan general type, with a colonnade in woodwork, apparently, in which the columns are rather playfully treated in a baluster-like form, turning in at the base, a small detail which gives the slightly picturesque character suitable to the general scale and treatment of the whole. We should also mention the fine water-colour drawing of Mr. Young's staircase at "Gosford House" (1,529); this is in much the same manner as the staircase of the Glasgow Town Hall, a severely Classic interior in which much of the effect is produced by the employment of marble veneering. This is a kind of treatment in which costliness of material plays a considerable part in the effect; there can hardly be said to be anything very original in the design, but it is a thing very completely carried out according to its type, and shown in a very fine and effective drawing.

Mr. Belcher exhibits an elevation of "Bearroc, Berkshire" (1,504), a brick house with stone mullioned windows, and of rather irregular outline, which does not call for special remark, especially as there is only a block plan to explain it. We have to protest again and again against this habit of exhibiting illustrations of houses without plans. In the French architectural exhibitions such a thing as a design without a plan is never seen, and it ought to be the same in the Architectural Room of the Royal Academy.

A considerable number of the smaller house drawings are examples of the endeavour which we see constantly at the present day, especially among the younger generation of architects, to produce something unusual and characteristic. Some of the drawings show the same desire, in their manner and execution, to do something new and uncommon. It may be that this is being carried a little too far, and results in too conscious a striving to be picturesque, but it is at all events more interesting than formality and an adherence to types which have become tedious by repetition. Perhaps a more valid objection may be that some of these picturesque small houses are too deficient in solidity of appearance and construction. It is doubtful whether half-timber work is not now an anachronism. It belonged to days when carriage of materials over long distances was practically impossible, and carriage over short distances expensive; the materials to hand were used as far as they would go, and timber came cheaper and handier than brick. Now that railways can deliver brick and stone from any part of the kingdom to another with no difficulty and at comparatively moderate cost, the use of half-timber building serves only an æsthetic purpose, and it may be questioned whether the interest in it on that account will be very long-lived. Hence we do not feel very much sympathy with Mr. Briggs's studies in old English house-style, as exhibited in the two drawings of the house at Oxted (1,506, 1,518); the revival of an old style is very well carried out, but it is out of place in the nineteenth century, and in a few years, when the fashion for it has gone out, will probably be felt to be so. Mr. Aston Webb makes a significant contrast to this in his "Summer Cottage, Isle of Wight" (1,529), which has a character of almost castellated solidity; if this is intended as appropriate to a house in a situation near the sea, we rather agree with the idea, though, perhaps, for anything called a "cottage," it is rather overdone. Among the smaller drawings which aim at character may be noticed, that by Mr. Voysey, "House at Colwall" (1,452), an elevation showing apparently rough-cast walls amid a framing of timber-work, painted a dull green tone; there is certainly character both in the design and the drawing, but if this is a dwelling-house, there is rather an affectation of rusticity about it, and it suggests a street shop in a small market town rather than a dwelling-house in the ordinary sense. Mr. Ashbee has given some character to his "'Magpie and Stump,' Cheyne Walk" (1,487), a tall, narrow brick house, with a projecting bay of peculiar plan—a semicircle projecting from the front face of a semi-octagon—carried up through several stories, and finishing flat at the top. A complete set of plans are added. Mr. Mitchell's "The Gables, Harrow-on-the-Hill" (1,510), owes a good deal, we suspect, to the effectiveness of the water-colour-drawing, by which we have often found that a picturesque and "ancient" character is imparted to a house which in reality looks a good deal less picturesque than the drawing, the effect lying a good deal in a kind of texture and surface which can be indicated in a drawing, but which only age imparts to the actual building. A plan is added, with which we have no fault to find, and which is noticeable for its large and spacious hall, a feature, however, which scarcely indicates itself sufficiently on the exterior design. Another house design which is carefully illustrated with large-size plans is that by Mr. Ambrose Poynter for "A Suburban House" (1,597). The simplicity and absence of pretence in the house are worthy of praise, as far as the front is concerned, but the mass of hipped roof into which the cornices of the bays die has rather an ugly effect, as well as the window cut out of the corner of the house in the rear. Why place a window where it must appear to weaken the angle of the building? The author is to be commended for attaching so much importance to the plans, and showing them to a good large scale; we wish others would follow his example; and the management of the little octagon hall with its two columns is a very pleasant and clever bit of planning; but the author, like some of his friends of the specially "artistic" set, has some practical things to learn about planning. The dining-room door is made to open close on the fireplace, and not only so, but is carefully shown to open the wrong way, so as to lay the whole room open to view from the hall and front door when it is opened; it should have opened the contrary way with its back to the fireplace, so as at least to screen the latter somewhat; such an arrangement as is shown here is enough to destroy all the comfort of a room. The drawing-room door likewise opens the wrong way; and the kitchen fireplace is at the opposite side from the window. A cook would tell him that it would be impossible to see what she was doing over that fire at all. These mistakes about doors and windows are what we are constantly coming across in the plans of houses by those who represent the "art-architect" persuasion in the profession. If they are above the consideration of these little points which affect the comfort and convenience of a house, they will be likely to hear of it from some of their clients.

Among drawings of a special type are two which represent not so much a house as a house and surroundings. Mr. Lorimer's "Earl's-Hall, Fife" (1,446) is an interesting bird's-eye view in pen-and-ink of the restoration of an old Scotch house, the former dilapidated state of which is shown in a corner sketch, the main drawing showing the house (not very much of it) with the whole very complete laying-out of the very elaborate formal garden, orchard enclosure walls, and the small buildings at the angles of the enclosure. Unfortunately, only a block plan is shown; we should have liked a separate plan and elevations of the house. However, the drawing is a very interesting one of its kind, which we shall publish shortly, when the architect has promised some information about the old house, which has, we believe, a rather interesting history. Mr. Inigo Thomas sends a coloured perspective, very green, also a bird's-eye view, of a "church-house and garden" (1,598), but here the architecture is so entirely in abeyance that nothing can be made out of it, and we hardly see that such a drawing has a place in an Architectural Room, unless as an accompaniment to drawings showing the building properly; nor, we must confess, can we see anything of particular interest in the laying out of the ground.

A drawing of a foreign house by an English architect (Mr. Brydon), the "Château de Buillon" (1,574), is of interest in more ways than one. It is apparently a house for an artist, with an upper timber stage mounted on very plain and solid masonry walls, and a plain octagon stair-turret attached, with a conical roof, and an open balustraded stage at the top, half-reminding one, in a peaceful way, of the usual termination of an early French château turret; a plan is added. Among designs for purely street architecture (by which we mean street fronts, and nothing else), which are not very numerous, Mr. Bedingfield's "A Street Front," though it is a rather hard pen drawing, deserves notice for its special and rather unusual treatment, with plain octagon flanking turrets rising out of square projections on the ground story, one of which forms the porch; the series of windows in the centre wall, marking the upper floor, are stopped by the angle turrets. It is rather a new way of treating a street house-front, and as such worth attention. Mr. W. T. Walker shows a characteristic little street front in "Premises, High-street, Uttoxeter" (1,471); and Mr. W. Tillott Barlow goes a little out of the usual beat in his three small sepia-washed drawings of interiors, entitled "Three Alternative Designs for the Treatment of the Study" (1,591).

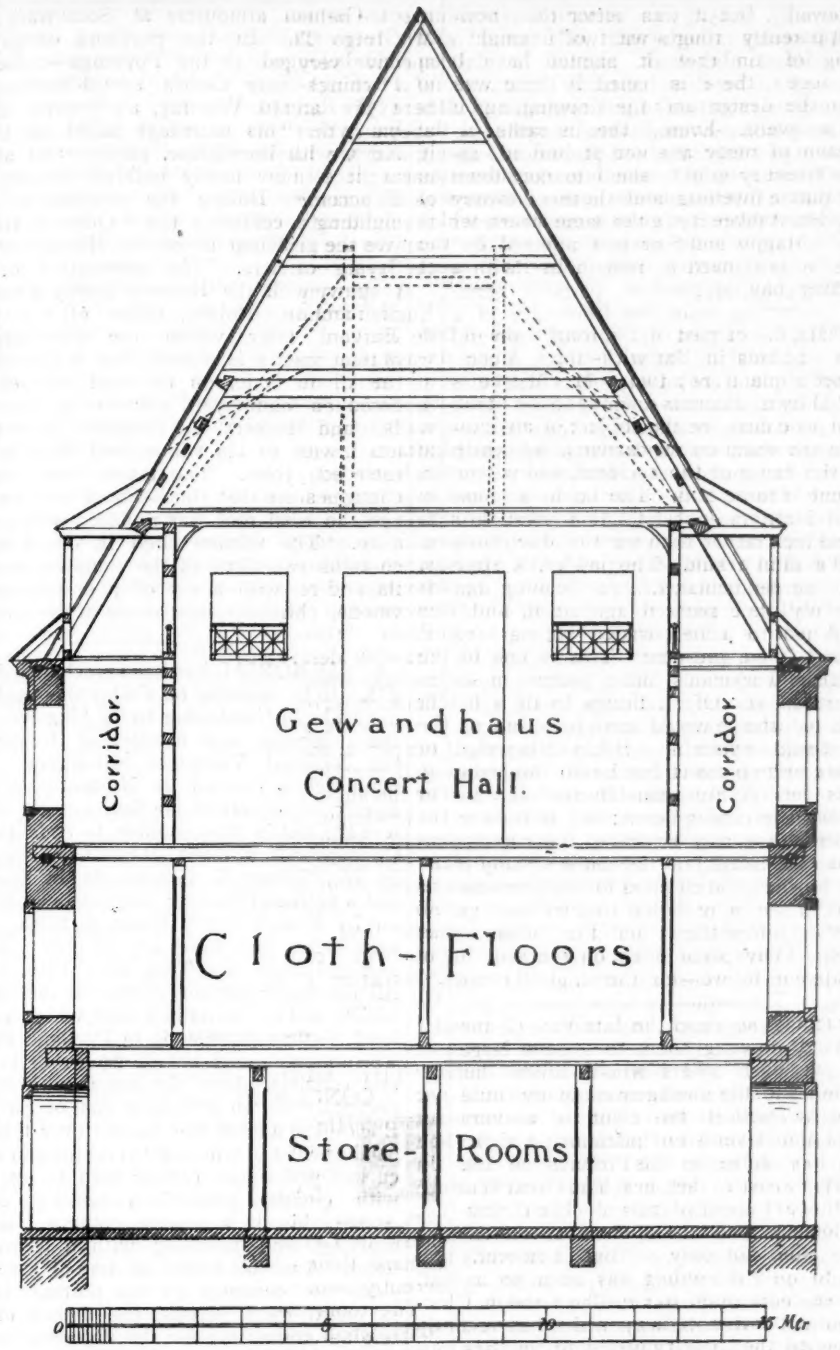
THE OLD "GEWAND-HAUS" CONCERT HALL, LEIPZIG.

THIS long-celebrated music-room, in which many important concerts have been held and many great players have performed, and which was a kind of classic ground to lovers of music in Germany, as our old "Hanover Square Rooms" used to be in England, has recently been demolished.

The room was very peculiarly placed and constructed, and its acoustic properties were so notoriously satisfactory that it is of some interest to consider what was the cause of its success. The matter has been gone into by a German theorist, Herr Volkmar Müller, in the *Zeitschrift fur Instrumentenbau*, and though we decline to adopt this writer's very positive opinion as to the secret of acoustic success in the construction of concert-halls, or at least as to the matter being solved by the old Gewand-haus hall, we are indebted to him for the facts, which are of some interest.

"Gewand" means "cloth" in German, and the "Gewand-haus" or "Cloth-house" concert-room was so known from the fact of its occupying an upper story in a building mainly used as a cloth warehouse. It is rather curious that the name, we understand, clings to the new concert-room which has been built to supply the place of the old one, though without the same reason in regard to its situation.

The old Gewand-haus dates back to 1498, and was long known as the "Zeug-haus," or armoury of the city. At fair times the lower parts served as store-rooms, and notably as cloth-floors for the merchants, the space under the high-pitched roof being used as a granary, and, later on, as a library. The Seven Years' War had disturbed the celebrated concerts which were begun under private enterprise in 1743, and J. A. Hiller, who was living at Leipzig at the close of the last century, renewed and carried them on at his own risk. There was not a building in the city fit to give good concerts in, and it was at the instance of the Duke of



Section of the Old Gewand-haus, Leipzig.

Weimar that in 1780 the architect J. F. Dauthe took the first steps with a view to remedy the evil. After examining the Zeug-haus he submitted a plan for converting the space under the high-gabled roof and over the library into a concert-hall 40 ells long, 20 wide and 12 high (the Leipzig ell being then 0·6856 mètre), proposing at the same time that, in order not to overweight the building, the walls thereof should be made not of masonry but of boards, and these lined with reeds in winter-time. This plan was submitted on May 10, adopted by the Town Council on June 13, and the hall finished in November, 1780. The first concert was given in it on November 25, 1781.

The form of the hall was an oblong, rounded at each end. Its excellent acoustic properties were generally, if not universally, attributed to its shape. Herr Müller urges that this was not due to the *form* only, but likewise to the material used, and to the way it was put together.

As will be seen from the section subjoined, the concert-room was a wooden building within a building. This wooden structure was built on the ceiling of the cloth-floor, which, in turn, rested on the store-rooms beneath. The main beams were carried by oak story-posts. The interior construction of the hall is of course entirely of trussed wood-work, as indicated on the section, and the wooden lining of the concert-room was rounded off at the angle of the ceiling and floor. That this should have been done shows an early perception of what has only been more lately recognised in English works on acoustic construction, that a right-angle between ceiling and floor gives rise to reverberations. Below the wooden floor of the concert-hall was the large and (apparently) unoccupied space of the cloth-stores; at least, Herr Müller speaks of this as an empty space below the concert-hall floor, and therefore we presume that it was to a great extent unused space; if it had been usually filled with bales of cloth, of course its condition as a reverberative space would have been very materially modified.

Assuming this to be the case, we may accept to a certain extent Herr Müller's view that the old Gewand-haus Concert Hall may be likened to a violin. The inner roof or ceiling, and partitions, represent, according to him, the strings, and bridge; the ceiling of the cloth floor, with its transverse beams, forms the belly; the upright story-posts formed the sound-post and bass-bar; and the lower floor the "back" of the violin. All the parts of the room, therefore, were free to vibrate, no rigid walls or floors being in connexion with the actual concert-room anywhere. This analogy with the construction of the violin appears to us to be pushed a good deal too far in detail; but taken generally it is no doubt true that the sides, roof, and floor of such a room would re-inforce the sound of voices or musical instruments in somewhat the same way that the body of a violin re-inforces the sound of the strings.

The satisfactory effect of the room acoustically was notorious, and rests on abundant testimony, and we agree that its construction and position are probably mainly accountable for this. Whether, on that account, it is to be concluded that we should adopt some such system in the construction of concert-halls, and sling, as it were, a wooden hall in the midst of a walled building, with spaces above and below and on each side of it, is more than questionable. In case of fire, it would be one of the most dangerous buildings that a large audience could possibly be in, and that consideration alone is sufficient to decide against any hasty adoption of such a suggestion, whatever we might expect its acoustic success to be.

NOTES.

THE Archæological Society of Athens has been recently engaged in excavations in the island of Ægina. Their work has been carried on at the (so-called) temple of Aphrodite, which is near the town itself. Parts of the foundations of this temple, and one column standing upright, still remain. Beneath the mass of earth and rubble on which the temple was built are remains of masonry of early Greek date, and still further down a deep layer of Mycenæan remains. The buildings in this lowest layer are unusually well preserved, and were probably private houses. A great quantity of rare fragments have come to light, some of them of a peculiar technique. M. Evetria, for the American director, Mr. Richardson, has done important work at and about the theatre. The west parodos has been cleared out, and near to this parodos the foundations of a small peripteral temple have been found; in front of it was an altar, and both were presumably dedicated to Dionysos. From Athens (through the *Berliner-Philologische Wochenschrift*) comes the news that Dr. Dörpfeld has discovered in the Dionysos Theatre there an underground passage similar to those already known at Eretria and Magnesia.

THE debate in the London County Council on Tuesday on the subject of the unification of London, as it is called, was purely academical. The matter is one for discussion in the House of Commons. The County Council may vote a dozen resolutions in favour of the amalgamation of the City with the rest of London, but the subject cannot be dealt with in this Parliament. What the view of the next Parliament may be no one can tell. When a scheme for the improvement of local government in London is brought in it will be proper to discuss it. At present the County Council are wasting their time when they spend the best part of two sittings over debating society speeches.

BOTH architects and engineers in Germany are giving much attention to the arrangements made for the opening of the North Sea-Baltic Canal, the former on account of the many interesting temporary structures to be erected in connexion with the various ceremonials, and the latter because of the risk to be run in taking so many warships and pleasure craft between the hardly-completed banks of the canal. It is not our intention to here refer to the history of the canal, but we must mention that the first sod was only cut in 1888, and that through traffic on the new waterway has only been possible for a few weeks. On the last trial trip the banks between Rendsburg and Bruensbuettel were certainly not found to be in a satisfactory condition. The opening ceremony proper will take place outside a memorial hall erected in connexion with the Holtenau Lighthouse, near Kiel. This hall is known as the "Three Emperor Hall." The in-

auguration is to be followed by a banquet to one thousand persons in a temporary structure which is nearly 400 ft. long. The date of the inauguration is June 21. On the day before, the dangerous procession of ships through the canal takes place, and on the day previous to this, a ceremonial at Hamburg. The programme at Hamburg also includes a banquet for one thousand persons in the new "Rathhaus," where the main halls will be temporarily decorated at a great cost. Temporary structures of architectural pretension are also to be erected on an artificial island specially constructed in the Alster Lake, and the whole city is to be most systematically decorated, regardless of expense. We are glad to hear that the decorations and provisional buildings are all in the hands of leading architects, who are ably assisted by painters and sculptors of repute.

THE announcement that the London County Council have made an arrangement with the Corporation of Croydon by which the latter will purchase a proportion of the Lambeth Water Company's undertaking, should the Committee of the House of Commons decide that it shall be purchased by the County Council, shows the drawback to the piecemeal way in which the London water question is now being treated. It is obvious that there should be, as we have constantly urged, one water authority for London and the surrounding districts. For example, if a complete supply from a distance were obtained, it should be for the benefit not of London only, but of London and the neighbouring districts. If there are to be separate authorities, the question will be continually presenting difficulties and increasing expense. In this very case of Croydon and London, we have an example of the duplication of authorities which would be quite unnecessary if one central body, with representatives in it from London and the suburbs, were created.

THE Committee on the Home Secretary's Factories and Workshops Bill appears to be much vexed with the question whether sanitary inspection should be extended to the houses of those who, being *employés* in a large business, nevertheless do their work at their own homes. The question really seems to us to be very simply limited by two considerations: do the *employés* rent their houses from the employer? or is the nature of the productions such that their manufacture being carried on in insanitary houses would be likely to lead to any injury to the purchaser and user of the goods (as in the case of clothes, for instance)? In either of these cases the extension of the powers of the proposed Act to the houses of the *employés* would be right and reasonable. Otherwise, it would not be so; not, that is to say, as a part of Factories and Workshops legislation.

ON Monday night a question was asked in the House as to the site formerly occupied by Her Majesty's Theatre; whether there was any provision for forfeiture on the failure to fulfil the building covenants, and whether it was proposed to allow the site to remain any longer vacant. From the answer of the Secretary to the Treasury it appears that the site is held under agreement for a lease, but that the lease will not be granted until the new buildings are erected, and that it is not considered necessary to take any immediate steps on behalf of the Crown, "whose interests are not prejudiced by the delay." This is not a very satisfactory state of things in regard to the appearance of an important street like the Haymarket, which is thus left with a great unsightly gap in it, and with apparently no immediate probability of the erection of any buildings there such as would restore the street to its normal condition, or perhaps, it might be hoped, to something better than its former aspect. The theatre was not a very noble or striking piece of architecture externally, but it was better than nothing and it seems rather a want of foresight and consideration that it should have been allowed to be demolished if there was no immediate intention to put something better in its place. Even if the interests of the Crown property are not prejudiced, surely the Treasury might take into consideration the public interests, and those of owners of important property in the same street, which are certainly more or less affected by the site being allowed to remain in its present forlorn condition.

THE fall of part of the front walls of two houses in Bastwick-street, since unhappily one if not two poor children were killed by it (accounts differ as to the number), will, of course, be the subject of an inquest, through which we may arrive at a knowledge of the cause of the accident, and where the blame is to be laid. The ladder accident in Pall Mall was not fatal to anyone, through good luck rather than want of due provision for a fatal result. The ladder, it appears, was perpendicular, *i.e.*, not leaning against the wall but secured against it, and was attached to a balustraded coping — roped round it, we presume. This is one of the British workman's little pieces of light-heartedness. Of all things to tie a ladder to a balustrade would seem to be one of the least safe or suitable. It has little weight or mass, and no direct bond into the building. It seems highly probable that the ladder pulled the coping down; but if it were the reverse case, and the fall of the coping sent down the ladder, the lesson is equally plain. As, by the greatest good fortune, no one was hurt, it seems probable that we shall get no further information; but the incident may perhaps have some effect on the securing of ladders in future—for a time, at all events.

SOME years ago the late Vice-Chancellor Malins decided, in the case of Norton *v.* The London and North-Western Railway Company, that a railway company could not legally obstruct the light of a dominant tenement before an indefeasible right had been gained under the Prescription Act. In the later case of Bonner *v.* The Great Western Railway Company this decision was not acted on, and there were therefore two opposing decisions. Now, however, any doubt on the subject has been set at rest. In the case of Foster *v.* The London, Chatham and Dover Railway, which has recently been decided, the Court of Appeal has intimated that Vice-Chancellor Malin's decision was contrary to sound principle. It is true the question of light was not directly involved in this last case, but for practical purposes this is immaterial, since there are now two cases opposed to Vice-Chancellor Malin's judgment. The result is that a railway company, which is the owner of a servient tenement, has the same right as any other owner of property to prevent the acquisition of a statutory right to light over its land.

A CORRESPONDENT directs our attention to the present condition of the "Queen's Head," Southwark, from which all the lath and plaster has been stripped, exposing the timber work, of which, indeed, the older portions are mainly composed. It must be, we imagine, the most ancient of the few yet remaining inns in the Borough, for it escaped from the fire which in 1676 consumed many of its compeers along the east side of High-street. The latter were rebuilt, and in their original style, but at this day the "King's Head," "White Hart," and "Tabard," are new, whilst portions of the older "George," "Spur," and "Half Moon," may still be seen. The "Queen's Head," known until Elizabeth's reign as the Crossed, or Crowned, Keys, lies down a yard southwards from the "Tabard"—last century the whole street, almost, consisted of carriers' and coaching inns—and retains parts of its "galleries" and "boxes." In 1529 it served as a storehouse of "artillery" and "harness" for Henry VIII., who employed a company of German armourers at Southwark and Greenwich. In the previous century it had belonged to the Poynings—a Robert Poynings was Cade's sword-bearer. In 1558 Richard Westray, ale-brewer, leaves his wife "his messuage called the Cross Keys, with brewhouse, garden, and stable as it is now newly builded by my son Thomas."* During the seventeenth and eighteenth centuries the "Queen's Head" was the principal house for Hampshire and Sussex carriers. The association of the property with the Harvard family is worthy of mention. Robert, father of the John Harvard after whom the university in Massachusetts is named, was a butcher at the Chain Gate, on the east side of St. Saviour's churchyard (where is now the Borough Market). At his death in 1625 the inn passed to his widow, and from her to their son John. The tavern has suffered changes since that time—about twelve years ago the tiled roof was replaced with one of slate. The volume cited in our footnote contains two views of the premises as they then were, with a cut of a prettily-carved wooden chimney-piece in one of the rooms.

A MEMORIAL has been erected, and was to be unveiled on Friday this week by the Duke of Cambridge, to Sir John Bucknill, the originator and founder, at Exeter, of the National Volunteer movement. The memorial is erected at Northernhay, near Exeter, on the site of the Saxon castle, which was the last in this country to cede to the Conqueror (A.D. 1066). It has been designed by Mr. Sidney K. Greenslade, of London, and a native of Exeter; and has been carried out by Messrs. Harry Hems & Sons. The approaches and base are of grey granite, quarried from the Tors, near Princetown. All the upper portion (except the inscription tablets and the medallion bust, which are in hard Sicilian marble) is in Portland Stone. The monument is nearly 25 ft. in height, and consists, above the steps, of a square pedestal with an alto-relief bust of Sir John Bucknill in a medallion panel; over this is a smaller cube of stone, with cornice and small curved pediments, carved with foliage and with circular medallions bearing dates. Above this is a square column, slightly tapering, and finishing with a crown as finial. A marble tablet, on one of the three sides not occupied by the portrait, bears, in inlaid metal letters, the names of the original committee for the Volunteer movement, with the name of John C. Bucknill as Hon. Secretary; another tablet bears the names of the first Volunteer officers commissioned by the Queen, and of the places which supplied recruits to the 1st R.V. on its formation; and on the remaining side is a tablet with the following inscription:—"Erected to commemorate the formation in Devonshire, in 1852, of the Volunteer Force of Great Britain, as a consequence of communications from John Charles Bucknill, M.D., F.R.C.P., F.R.S., to the Right Hon. Hugh, Earl Fortescue, K.G., Lord-Lieutenant of the County of Devon and of the County of the City of Exeter. In recognition of his services to the Volunteer movement the honour of Knighthood was conferred upon Sir John Charles Bucknill, by Her Majesty Queen Victoria, in 1894."

THE Committee of the Willesden School Board for settling the competition for the Dudden Hill School do not appear to be acting in a quite straightforward manner. At the meeting to consider the subject, according to the report in the *Middlesex Courier*, the Committee adopted the view that the assessor (Mr. Macvicar Anderson) had recommended the designs of Mr. Caröe and Mr. Gabriel—which seems an absurd statement on the face of it, as the assessor could not well recommend two designs for the same building. Mr. Macvicar Anderson disposed of this in a letter to the above-

* The "Inns of Old Southwark," by [the late] W. Rendle, F.R.C.S., and Philip Norman, F.S.A. (1888).

mentioned paper the following week, in which he distinctly said that he had placed the three designs in the following order:—1, Mr. W. D. Caröe; 2, Mr. Charles Bell; 3, Mr. Edward Gabriel. The School Board seem bent on adopting the one put last, instead of the one put first; and if the report of the proceedings at the committee is correct, appear to have arrived at this by a misrepresentation of the effect of the assessor's report. That there is some pre-judication of the matter in the minds of a portion at least of the committee is pretty evident. Ultimately, the final consideration of the subject was deferred to another meeting, when it is to be hoped the committee will at least recognise the correct effect of the assessor's report, as plainly explained by himself.

IT is not very creditable to the architects who are members of the Institute that for the second time a paper by so able and learned an exponent of architectural history as Professor Baldwin Brown should have failed to attract more than a very small attendance of members. Like his former paper on Vitruvius, Professor Brown's paper on Saxon Architecture was one of exceptional excellence, on an exceptionally interesting subject. The writer of these words was, to his own great regret, prevented by other engagements from attending, and some others who knew the value of the paper may have been similarly prevented; but one can hardly explain a general abstention, on two occasions, on that theory. One can only conclude that many members of the Institute are not aware of the Edinburgh Professor's claims to attention.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS:

SOME CHARACTERISTICS OF PRE-CONQUEST ARCHITECTURE.

THE ordinary meeting of the members of this Institute was held on Monday last at 9, Conduit-street, Mr. F. C. Penrose, M.A. (President), in the chair.

The President apologised for taking the chair somewhat late, as the Council had been detained at Limmer's Hotel by a deputation from an excursion of German architects of the Lower Rhine and Westphalia. The President of the deputation had made a speech in terms most complimentary to the Institute, and had presented the library with two very interesting books showing the ancient fortifications of Cologne, before they were improved out of existence, with some excellent photographs of the region round about the city.

Mr. W. H. White (secretary) announced the decease of Mr. James Piers St. Aubyn, elected Associate in 1837, and Fellow in 1856.

Mr. White further stated that the Council had recommended the following gentlemen for admission—as Fellows:—Charles Busteed Fowler, Cardiff, and Francis Thomas Dollman; as Associates: Herbert Phillips Fletcher, London; George Hubbard, London; John James Joass (Pugin Student, 1892, Owen Jones Student, 1894), London; Geoffrey Prater Armstrong, London; and Walter Robert Jaggard, London; as Hon. Corr. Members: Alexander Wielemans, architect, Vienna; and Ferdinand Fellner, architect, Vienna.

Prof. G. Baldwin Brown then read a paper entitled "Some Characteristics of Pre-Conquest Architecture." The lecturer said, in opening his paper, that a century ago the word "Saxon" was commonly applied in a loose sense to denote all round-arched Mediæval structures, including those of Norman origin. Such misusage ceased on the publication of Thomas Rickman's "Studies of the Styles of English Architecture" in 1813. In Rickman's epoch-making essay, the Norman was made the first of the styles there described and discriminated; while, with respect to earlier work, the author noted that "though many writers speak of Saxon buildings, those which they describe as such are either known to be Norman, or are so like them that there is no real distinction." At the same time, the Professor noted the subsequent increase in the number of remains recognised as Saxon, which in Bloxam's "Principles of Ecclesiastical Architecture" had attained to a list of 130 examples, and had been considerably increased since then. A list of examples of Saxon masonry pre-supposed the existence of certain criteria by which work of the kind can be, with some assurance, identified. Appearing as it did in the architectural history of the country between the Roman and the Norman periods, Saxon work might seem at first sight very easy of identification. Roman work, it might be said, and Norman work were alike unmistakable. This argument might apply in the case of Roman work; but in small and unpretending structures the Norman style showed itself still uncertain and tentative. Thus, at Bernay, in Normandy, in the first half of the eleventh century, and in Edward the Confessor's buildings at Westminster, the masonry and details had the pronounced Norman character; while country churches in Normandy contemporary with Bernay, and those erected in Britain in the first generation after the Conquest, were often built irregularly of small materials, and were destitute of those special constructive and ornamental features by which the style was generally recognised. Yet Saxon work possessed its own distinctive features. One would note here, first of all, a certain air of simple and severe massiveness, while not seldom the use of blocks of abnormal size lent to the structure a certain megalithic aspect. This last trait was to some extent Roman, but was opposed to Norman practice. The enrichment, though at times elaborate, was tentative, illogical, bizarre, and seemed to bring before us craftsmen working, not according to a living tradition of style, but from imperfect remembrance or hearsay. Accordingly, we might describe pre-Conquest architecture in general terms as presenting a decidedly primitive aspect; but it was primitive, partly because it was simple and rude and massive, and partly because it was somewhat childish and uncivilised in its enrichment and its details. Saxon masonry had, in regard to its facing, no special consistent character, and the various forms might be paralleled in early Norman work in France and in England. Masonry of stones, squared, indeed, but not accurately squared, and laid in level courses that were not consistently levelled, was very characteristic of Saxon work of the better kind, and was well represented at Bosham, near Chichester, and Billingham, county Durham. Herring-bone work, which used at one time to be regarded as something specially Saxon, did, in fact, hardly occur at all in the style. The external use of plaster was proved in many cases by the setting back of the wall-face half-an-inch behind the quoins. In many instances, as at Sompting, the plaster still remained. The absence of buttresses was a noteworthy feature of Saxon as distinct from Norman walling; but the chief peculiarity was to be found in the quoining. The corners, whether of tower, or nave, or chancel, were often constructed of the familiar so-called long-and-short work, but in many examples they were formed of very large and massive blocks, contrasting with the smaller material of the rest of the fabric, and it was from this feature that Saxon buildings derived that semi-megalithic character already spoken of. Although not buttressed, the walls of many Saxon buildings were treated with a composition of pilaster strips, joined above by round or straight-sided arches. In the structure of the wall, there was an important difference between the work in question and that of the Romans and the Normans. The Saxon wall was a single thing, the Roman and the Norman wall, at any rate in the twelfth century, a threefold affair, consisting of two carefully-constructed outer faces and an interior filling of rougher material. Partly in consequence of this mode of construction, the Norman wall was generally thicker than the Saxon, and it was to the credit of Saxon builders that their comparatively thin walls, often less than 3 ft. in thickness, had stood as well as has been the case. In consequence of this difference in the construction of the walls, the Norman was supported in the centre by undergirding arches carried on a shaft with a properly-designed base and capital. The Saxon column was but a prop, with nothing organic about it. Door and window openings presented some characteristic features, occasionally sloping jambs. The curious mouldings and incidental carved features defied classification. It was a defect in Rickman's and other works that they dwelt too much on the classification of details. Little could be made of Saxon architecture on this system; it must be studied as a whole. Referring to the Saxon towers, he would suggest that they were partly built as strongholds against the Danes, a purpose which they would fairly answer in a constructive sense. Referring to some of the most complete examples of Saxon churches, at Escomb and Bradford-on-Avon, and St. Mary's, Dover Castle, he pointed out that the latter, which was in cross form, could not be referred to the Roman age, as not being in basilica form. The churches at Reculver and Brixworth were pillar-basilicas of Roman type, but Escomb and Bradford-on-Avon were on an entirely different plan, the outcome of other than Roman traditions. They were narrow and lofty in comparison with their width, and had square east ends. They agreed with the Celtic plan, but differed in the masonry, which was roughly squared and coursed, while that of the Celtic builders was polygonal. Their general character, however, indicated the predominance of Celtic rather than Roman church influence, although nearly all the peculiarities of the masonry were referable to Roman tradition. The use of balusters and of the pilaster-like strips on the walls, the latter of which had sometimes been supposed to represent a reminiscence of timber framing, was, however, undoubtedly due, like similar features in Romanesque work elsewhere, to the influence of classic forms. Their origin was Roman, and it was notable that the more ancient examples were the most elaborate. The use of the straight-sided arch for connecting the pilaster-strips, instead of the round arch, was simply a parallel to the use of the triangular heading for door and window openings. Timber tradition had nothing to do with it. To sum up generally, therefore, we might say that in plan and general appearance, Saxon churches took either the basilican and cruciform shape due to Italian tradition, or else the long narrow form of the Celtic stone-built oratory. The smaller village churches would, probably, in all cases exhibit the latter plan, with an aisleless nave and small square-ended chancel; while it was reasonable to suppose that the aisles, transepts, and apse of the Continental styles would appear in more important structures, such as the great abbeys, that were in such close connexion with Rome. That the Celtic feeling was, on the whole, predominant might be argued from the perpetuation of the square east-end in the later styles of English architecture. In the matter of features and details, with the exception of sloping jambs and an occasional megalithic feeling in huge flat lintels, all that we found here was in its origin Roman, though the Saxon builders had their own incoherent methods of expression, which, at first sight, made us credit them with a special language of their own.

The President, in inviting discussion, said he was sorry there was such a small body present to listen to Professor Baldwin Brown's most interesting essay. It had been extremely interesting to hear the way in which the Professor had pointed out the connexion between history and architecture during a period which had been generally neglected. He remembered in his first days of study it was thought that there might possibly be some Saxon work in the country, but it was very doubtful indeed; and lately much more light had been thrown upon the subject. Whether the Institute would be able to carry out the Professor's ideas, he did not venture to say, but if they could offer to their allied societies the opportunity of sending reports on any Saxon or supposed Saxon work situated in their respective neighbourhoods, it might be well worthy of consideration.

Mr. T. M. Rickman said he had pleasure in proposing a vote of thanks to Professor Baldwin Brown for his most lucid and interesting paper. Those who had looked at old churches, and had sketched and wandered about this country, had within the last few years seen more interest being taken in the so-called Saxon churches. The lecture they had heard that evening called attention to the special influences which had come to the front within the last few years in the consideration of those Saxon buildings—the influence of the Irish or Celtic style, the influence of the Roman style, and specially the use of the old materials which the Romans had left. He believed that careful search in the crypt at Hexham for stones carved or inscribed with Roman work would prove that there was in that district a vast amount of ancient materials which were then used. Ripon crypt, he believed, was built in the same way, and in the case of a number of churches in Yorkshire and the North, certain portions of the masonry could be traced to be Roman work. The lecturer had referred to the squared stones being available from the Roman work, and the habit of the Romans in using stones of a regular size, and this pointed to what they ought to look out for most carefully in any very ancient buildings they had to deal with. He was somewhat surprised that the Professor did not refer to one important Scotch building—

viz., the tower of St. Regulus at St. Andrews, one of the most interesting structures of that early period. The little chapel attached to it seemed to be more like Roman masonry than anything he had seen in this country. He would have confined himself almost to moving the vote of thanks, had not his father's name been mentioned by the lecturer, whom he had to thank personally for reminding them of what his father had done. He had been applied to for some time past to put together what he could of his father's professional life, and a remark made by Professor Baldwin Brown as to the detailed order observed in his book, recalled very much to his mind the conclusion he arrived at after reading through forty years of his father's diary—viz., that he was born an accountant and book-keeper, and that in taking up Gothic architecture he dealt with it in detail, as a branch of book-keeping. Every church examined by him was entered in the most careful manner, and there were great folio volumes, in which his father numbered the churches he had seen, with certain marks and indications attached to these numbers, to describe the component parts of each building, the whole looking like a series of office-books. Only within the last few months had it occurred to him what would be a far better illustration of his father's work with regard to Gothic architecture. It was well-known that the Colonists of Australia had been trying to grow the red clover, which would not flourish, because there were no bumble-bees there. The Colonists, however, imported the bees, and now the red clover flourished in the colony. Now his father was like a bumble-bee sipping the sweets of Gothic architecture, the honey was to be seen in his book, and another result was to be seen in the gradual and great increase of the practice of Gothic architecture, he having caused the impregnation of the red clover of Gothic architecture.

Mr. William White, F.S.A., seconded the vote of thanks. The paper they had had that evening was more a historical than a practical subject, but, at the same time it was a most interesting communication. He had seen numberless instances in the country, and little scraps of buildings, which could be hardly associated either with Roman or with Norman architecture. There was one special subject on which the Professor's learning might be brought to bear with a little further observation, namely, as to the history of the discoveries which had recently been made in the chancel at Durham. Canon Greenwell seemed to insist positively on the remains not being those of the earlier church of Aldhune, but the later one of Carileph. He (the speaker), however, could not help thinking that they were the remains of the earlier church. The only argument brought forward by the Canon, as a simple and most telling one, was that it was not at all likely that the builder would have pulled down Aldhune's earlier church until his own was finished. He (the speaker) would rather be inclined to base the matter on architectural evidence. In Norman times it was known that they paid very little attention to their foundations, and it was most probable that this building of Carileph's was built on an unsecure foundation. It was said that it fell to pieces, and, if so, there was reason to suppose that the foundation was bad. They might safely conclude that the earlier church was built upon a good and safe foundation, it having stood many centuries before being rebuilt. He could not help thinking, therefore, that Aldhune was the builder of the remains which had been discovered.

Mr. R. Phené Spiers remarked that the subject formed part of a study which was occupying attention in England and foreign countries. The influence of different schools in Italy, and particularly of the Byzantine school, was occupying the attention of many antiquaries. He was in hopes that they might have had that evening with them some of the members of a German Society who had just come over to England, and who might have explained why the German Romanesque work is practically unillustrated. They would all agree that the Saxon was not a style, but was simply an attempt to carry out, from descriptions of the monks and others who came over here, features which existed in Italy. He was glad to see that Professor Baldwin Brown adopted the view of describing the projecting strips at Earl's Barton and other places, not as attempts to copy timber work, but as an attempt to imitate as far as possible the arcaded wall-decorations of the Italians. He had pointed out that there were two influences exerting themselves on the work, namely, the influence of the early Celtic Church, and the influence of the Roman Church. There were certain features belonging to the former, such as the square east end, found at Bradford and Dover, which was peculiarly a national form, and but rarely found abroad. It was a singular fact that, although the apse was introduced at various times by the Roman missionaries, and after the Conquest was to be found at the east end of all our Norman cathedrals, the English afterwards returned to their own favourite square east end. Then, again, the transepts, as at Dover and Worth, were not of the same height as the nave, as were the examples of St. Peter's and of St. Paul's at Rome. Then there was the west tower, another English characteristic to be found in Saxon churches; and the central tower, which was not possible in a basilican church, and which was found frequently in our early churches. These were features which might be attributed to Celtic influence, while to the Romans might be attributed the basilican plan and the apse. The Byzantine influence might have exercised considerable effect. It was a singular fact that the churches at Brixworth and Wing both had polygonal apses, which were always found in Byzantine churches. There was another trace of Byzantine influence shown by the considerable amount of interlaced sculpture found throughout the East. A very large number of tombs were carved with this ornament, and with the early Celtic ornament, some of which was of such a beautiful character that it seemed impossible to have been executed by Saxon workmen. Perhaps the most finished example of Saxon architecture in this country was that at Bradford-on-Avon. With regard to the long and short work, he had not been able to find examples of that abroad. He believed that the circular piers at Christ Church Cathedral, Oxford, and Waltham Abbey, which were considered to have been of pre-Conquest origin, might be of Saxon origin. They found the same forms at Gloucester, Tewkesbury, Durham, and other places, and these, he believed, might be really attributed to Celtic influence.

Mr. John Slater wished to add a word of appreciation of the interesting paper they had had. Thanks were specially due to Professor Baldwin Brown, for, as a matter of fact, he had stepped into the breach and had taken the place of another lecturer. He did not know that he had ever listened to a more suggestive paper, and he had been particularly struck with what had been pointed out as to the immense antiquity of the village life of this country. It had come upon him almost as a surprise to think that it was probable that in many of these small villages they had almost in their exact position all the surroundings which were there in remote times. One could not help noticing that in some of the small villages cruciform churches did not exist at all. In the case of a church near Macclesfield, it was evident that the nave and a small piece of the chancel were the remains of a small Saxon church, the walls having been taken down and the aisles added. He believed there was a polygonal apse in Germany to be seen at the little ruined abbey of Heisterbach, near Königswinter.

The vote of thanks was then put and carried by acclamation.

Professor Baldwin Brown replied, and said how interested he had been to hear some personal reminiscences of Mr. Thomas Rickman. He never read Mr. Rickman's book without fresh wonder at the diligence and amount of travelling he managed to get through, in days when it was not so easy to move about the country as it now was. One could remember that his book, published first in 1813, had never been superseded, but remained the text-book of English architecture to this day. He would not attempt to enter into the great Byzantine question, or the question about the long and short work. He attached considerable importance to the use of long and short work in tower and window openings, before it was used for the corner.

The President stated that the next meeting would be held on Monday, June 10, when a business meeting would be held for the election of the Council and the Standing Committees for 1895-6, and for the election of candidates for membership.

The proceedings then terminated.

PREFERENTIAL RAILWAY RATES ON FOREIGN GOODS.—The Mansion House Association have invited a conference of public authorities and commercial and agricultural traders, to be held at the Mansion House on Tuesday next, to consider this subject. Tickets for admission can be obtained at the offices of the Association, Eastcheap House.

ASSOCIATION OF MUNICIPAL AND COUNTY ENGINEERS.

A WESTERN Counties district meeting of the members of the Incorporated Association of Municipal and County Engineers was held at Plymouth on Friday and Saturday, May 17 and 18. The members of the Association received a most hospitable welcome on their first visit to the great Western seaport, and the meeting proved one of the most successful of the series of district meetings held this year.

The members of the Association attending the meeting were received in the Council Chamber of the Municipal Buildings by the Mayor (Mr. W. Law) and other members of the Corporation.

The Mayor said that Plymouth had taken her part as a naval and commercial town, and had now in progress works of great engineering interest. The watershed on the confines of Dartmoor was one of the finest in the country. The progress of Plymouth in recent years had been most marked, and would compare favourably with the northern towns.

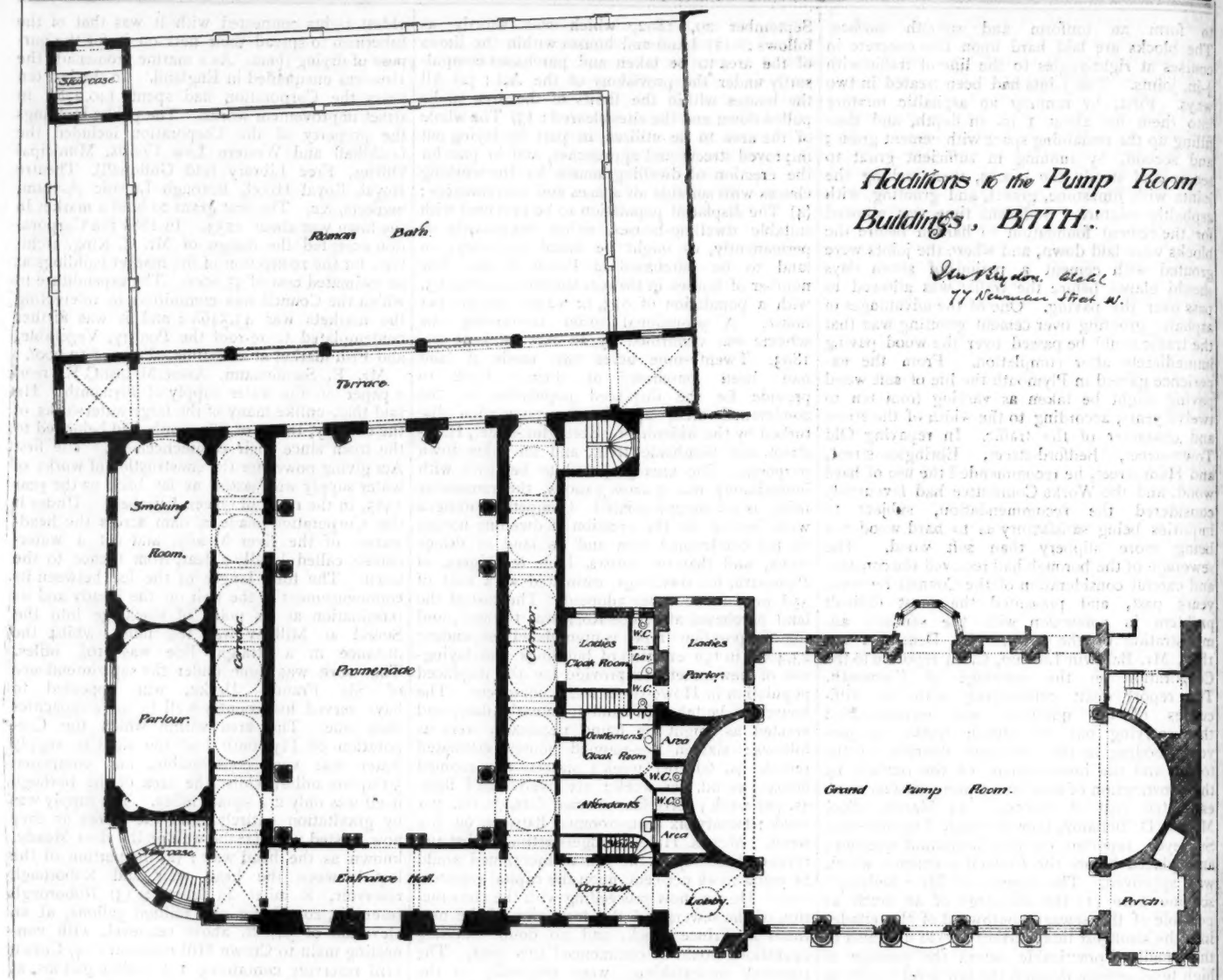
The President thanked the Mayor for the very generous welcome extended to the Association, and said it was a great pleasure to visit so ancient and historic a town as Plymouth.

An adjournment was then made to the Western Law Courts for the reading and discussion of papers on the public works of Plymouth. The President (Mr. A. M. Fowler, C.E., of Manchester), presided, and amongst those present were Messrs. J. Paton (Borough Engineer, Plymouth), E. Sandemann (Water Engineer, Plymouth), J. P. Barber (Islington), J. L. Hodge (Plymouth), C. Jones (Teignmouth), E. Sykes (Cheadle, Cheshire), R. M. Gloyne (Eastbourne), Lieut.-Col. Jones, V.C. (Westminster), M. G. Stringfellow (East Stonehouse) J. Parker (Nottingham), L. Stevens (Newton Abbott), A. C. Hodge and A. W. Debenham (Stonehouse), W. Jennings (Lambeth), H. J. Pearson (Lambeth), J. M. Manley (Redruth), W. Humpherson (Newton Abbott), W. H. Tressider (Falmouth), J. T. Hawkins (Somerton), and others.

Mr. J. Paton, C.E., Borough Engineer and Surveyor, read a paper on Plymouth and its Municipal Works. He said that from the year 1540 to the present time—a period of over three-and-a-half centuries—the borough had grown from a small fishing town into one of the most important ports in England, and a busy commercial centre. The Municipal history of the town was of great interest from the fact that it was the first borough in England to be incorporated by statute. The borough occupied the southern slope of the foot of the Dartmoor hills, and stood upon the slate and limestone of the middle Devonian series, rising to an average height of 100 ft. above sea-level. The area of the borough was 1,497 acres (including Drake's Island); of this area about 260 acres represented water area and land not available for building purposes, such as Government establishments, parks, &c. The population of 1895, according to the Registrar-General's returns, was 89,096, and the estimated number of houses, 10,979. The density of population for the whole borough in 1891 was fifty-nine persons per acre, which was equal to 8·74 persons per house. The figures varied considerably according to the character of the locality. In St. Andrew's Parish it was equal to 9·55 persons per house; in Charles' Parish to 7·87 persons per house. The rateable value of the borough was 315,300*l.*, and the total local rates for the past year 6/5d. in the £. The loan debt of the borough was 335,912*l.* The length of streets, roads, and lanes repairable by the Corporation was forty-six miles five furlongs. The footways of the streets were flagged with various kinds of material, including limestone, granite, and Caithness flagging, Coverack concrete slabs, Limmer asphalte and tar paving. The expenditure on highways during the past year was 6,508*l.* 12s.; street-watering and cleansing, 6,327*l.* 6d.; sewers, 973*l.* 11d.; and street-lighting, 4,664*l.* 7s. 7d. Wood-block paving had been used in Plymouth to a considerable extent for the carriageways of the leading thoroughfares in the centre of the town. The first wood paving laid down in Plymouth was during 1879, and this was renewed in 1886, making the life of the paving seven years. The cost of construction and renewal was 19s. 4d. per yard for a life of fourteen years. The timber used in this and other instances quoted, was red deal dipped in creosote. The blocks used in subsequent works were 7-in. by 3-in. by 5-in. deep, white Baltic saturated with creosote oil, equal to 10 lbs. per cubic foot. The paving was laid on a solid bed of Portland cement concrete 6 in. thick, the surface being floated over with fine stuff

to form an uniform and smooth surface. The blocks are laid hard upon the concrete in courses at right-angles to the line of traffic with ¼-in. joints. The joints had been treated in two ways. First, by running an asphaltic mixture into them for about 1 in. in depth, and then filling up the remaining space with cement grout; and second, by running in sufficient grout to secure and steady the blocks, then racking the joints with limestone, gravel, and grouting, with asphaltic mixture. Sufficient time was allowed for the cement foundation to harden before the blocks were laid down, and where the joints were grouted with cement a period of seven days should elapse before the traffic was allowed to pass over the paving. One of the advantages of asphalte grouting over cement grouting was that the traffic could be passed over the wood paving immediately after completion. From the experience gained in Plymouth the life of soft wood paving might be taken as varying from ten to twelve years, according to the width of the street and character of the traffic. In repaving Old Town-street, Bedford-street, Ebrington-street, and Ham-street, he recommended the use of hard wood, and the Works Committee had favourably considered the recommendation, subject to inquiries being satisfactory as to hard wood not being more slippery than soft wood. The sewerage of the borough had received the constant and careful consideration of the Council for some years past, and presented the most difficult problem in connexion with the sanitary administration of the town. On December 22, 1887, Mr. Baldwin Latham, C.E., reported to the Corporation on the sewerage of Plymouth. The report dealt exhaustively with the difficulties of the question, and recommended the carrying out of certain works to prevent flooding in the low-level districts of the town, and the improvement of the outfalls by the construction of new intercepting sewers, at an estimated cost of 24,000*l.* In March, 1890, Mr. G. D. Bellamy, then Borough Engineer and Surveyor, reported on this important question, and placed before the Council a scheme, which was approved. The objects of Mr. Bellamy's scheme were (1) the discharge of as much as possible of the sewage southward of the citadel into the strongest tidal current; (2) to diminish to the smallest practicable extent the passage of high level sewage through the low level sewers to prevent the flooding of the low level districts; (3) to minimise the discharge of sewage into the Cattewater. Part of Mr. Bellamy's scheme was being carried out in accordance with his designs, and under his supervision, at a cost of 30,000*l.* In October, 1894, Mr. Jas. Mansergh, C.E., was called in to advise the Corporation before any further expenditure was incurred, and Mr. Mansergh's report and scheme was unanimously adopted by the Council. The estimated cost of carrying out this scheme was 100,000*l.* The borough was divided into six drainage areas, the outfalls for all the districts being tidal. As might be expected in an old town, many of the old sewers were of an obsolete character, and he was now preparing a scheme for the reconstruction of these subsidiary sewers. For the purposes of street cleansing the borough was divided into one night district and three day districts. Plymouth, like many other ancient boroughs, contained within its boundaries considerable areas of slum property, densely populated by members of the labouring-classes. The question of dealing with unhealthy areas and houses unfit for human habitation was always a difficult one, and in Plymouth this difficulty was accentuated by the fact that the poorer classes had been accustomed for the past three centuries to crowd into tenements. Some idea of the overcrowding in the old part of the town might be gathered from the fact that the area of the borough originally enclosed by the old walls contained a population of 6,000 persons in the year 1625, and this area was now populated by about 20,000 persons. In his opinion the cause of the overcrowding was the excessive rental occasioned by the high price of land. On October 28, 1891, the Medical Officer of Health (Dr. F. M. Williams) made a representation to the Sanitary Committee under the Housing of the Working Classes Act, 1890, that within the area bounded by Looe-street, Howe-street, Buskwell-street, and Vauxhall-street, were houses, courts, and alleys, the narrowness, closeness, and bad arrangement of which, together with the want of light, air, and ventilation, were dangerous and injurious to the health of the inhabitants of the buildings, and the Committee resolved to forthwith prepare a scheme for improving the same. A scheme was submitted to and approved by the Sanitary Committee on September 29, 1892, which was shortly as follows:—(1) Land and houses within the limits of the area to be taken and purchased compulsorily under the provisions of the Act; (2) All the houses within the limits of the area to be pulled down and the sites cleared; (3) The whole of the area to be utilised in part for laying out improved streets and approaches, and in part for the erection of dwelling-houses for the working classes with suitable air spaces and conveniences; (4) The displaced population to be provided with suitable dwelling-houses, either temporarily or permanently, as might be found necessary, on land to be purchased at Prince Rock. The number of houses in the condemned area was 63, with a population of 813, or 12·90 persons per house. A provisional order confirming the scheme was confirmed by an Act on June 29, 1893. Twenty-nine acres two roods of land had been purchased at Prince Rock to provide for the displaced population of the condemned area, and for the population disturbed by the widening of Ebrington-street, Ham-street, and Southside-street, and for other town purposes. The area proposed to be dealt with immediately was 9 acres 3 roods, the remainder being as yet unappropriated. Competitive designs were invited for the erection of dwelling-houses on the condemned area and on land at Prince Rock, and that of Messrs. Hine & Odgers, of Plymouth, for dwellings, estimated at a cost of 3½d. per cube foot was adopted. The cost of the land purchased at Prince Rock was 19,097*l.*, and the Corporation now contemplated expending 23,400*l.* in the erection of buildings and laying-out of new streets, to provide for the displaced population in Howe-street and Looe-street. The houses to be taken in hand at an early date, and erected as might be found necessary, were as follows: sixteen five-roomed houses, estimated rental, 5s. 6d. per week; sixteen four-roomed houses, 4s. 6d. per week; six five-roomed flats, 4s. per week; forty four-roomed flats, 3s. 6d. per week; twenty-six three-roomed flats, 2s. 9d. per week. Messrs. Hine & Odgers estimate that the revenue based upon the rentals mentioned would be equal to 4⅝ per cent. upon the capital expenditure. He was now proceeding with the construction of the sewers and the formation of the new roads at Prince Rock, and no doubt building operations would be commenced this year. The tramway undertakings were originally in the hands of two companies. In 1892 the Corporation was impressed with the desirability of acquiring the tramways of the first company for the benefit of the borough on the following ground—the removal of a very great public inconvenience which had been caused by the manner in which the company had executed its work and conducted its business. After a considerable amount of negotiation, the undertaking was purchased by the Corporation under the powers of the Plymouth Tramways Act, 1892, for 12,500*l.*, the length of lines being 3·50 miles. The Tramways Sub-Committee purchased six new cars at 119*l.* per car, and from the old company six of their best cars, four at 80*l.*, and two at 35*l.* The experience gained by the working of the tramways induced the Council to double the line from Sherwill Chapel to Compton, which work had been carried out to the great advantage of the public. There were two depôts, and the stables accommodate 81 horses. The total capital expenditure on all accounts was 41,903*l.* 8s. 6d., and taking the mileage the total capital expenditure was 4,325*l.* less per mile than the average in England and Wales. The working of the tramways by the Corporation had resulted in a loss which amounted to 1,150*l.* up to March, 1894, and this debit balance was now increased to 3,265*l.*, the actual deficit on the last year's working being 1,297*l.* The deficit on revenue account would, in his opinion, be entirely wiped out when the tramway system was completed and the Compton and West Hoe lines were connected. There was no reason why the undertaking should not be self-supporting, and in time contribute towards the relief of the rates. The foundation of the tram-track was formed with Portland cement concrete, 6 in. in thickness. The rails were of best Bessemer steel, 6 in. deep, and were fixed to a gauge of 3 ft. 6 in. The track was paved with granite setts, racked with limestone gravel, and grouted with an asphaltic mixture. He had prepared plans for extending and connecting up the tramways system in the borough, at an estimated cost of 12,000*l.* The town was well supplied with parks and recreation grounds, the most important of which was the Hoe. The Hoe, in the early history of Plymouth, formed part of the waste of the Manor of Sutton, and as such belonged to the Corporation, and one of the oldest rights connected with it was that of the fishermen to spread their nets on it for the purpose of drying them. As a marine promenade the Hoe was unequalled in England. In the last ten years the Corporation had spent 140,278*l.* in street improvement works. The public buildings the property of the Corporation included the Guildhall and Western Law Courts, Municipal Offices, Free Library (old Guildhall), Theatre Royal, Royal Hotel, Borough Lunatic Asylum, markets, &c. The first grant to hold a market in the town was about 1253. In 1882 the Corporation accepted the design of Mr. C. King, architect, for the re-erection of the market buildings at an estimated cost of 35,000*l.* The expenditure to which the Council was committed in re-erecting the markets was 43,546*l.*; and it was further contemplated to re-roof the Poultry, Vegetable, and Fish market at an estimated cost of 12,000*l.*

Mr. E. Sandemann, Assoc.M.Inst.C.E., read a paper on the water supply of Plymouth. He said that, unlike many of the large waterworks of the country, those of Plymouth had belonged to the town since their commencement. The first Act giving power for the construction of works of water supply was passed as far back as the year 1585, in the reign of Queen Elizabeth. Under it the Corporation made a dam across the head-waters of the river Meady, and cut a water-course, called locally a leat, from thence to the town. The total length of the leat between its commencement at the weir on the Meady and its termination at its point of discharge into the Sound at Millhay was 18⅝ miles, whilst the distance in a straight line was 10½ miles. The work was done under the superintendence of Sir Francis Drake, who appeared to have served his country well in more capacities than one. The area within which the Corporation of Plymouth had the right to supply water was very considerable, and comprised 59 square miles, whilst the area of the borough itself was only 2·2 square miles. The supply was by gravitation entirely, and the works as they now existed were (1) the weir on the river Meady, known as the head weir; (2) the portion of the leat between the head weir and Roborough reservoir, 8 miles in length; (3) Roborough reservoir, containing one million gallons, at an elevation of 547 ft. above sea-level, with connecting main to Crown Hill reservoir; (4) Crown Hill reservoir, containing 1·3 million gallons, at an elevation of 368 ft., with connecting main to Hartley reservoir; (5) Hartley reservoir, containing 7¼ million gallons, at an elevation of 316 ft., with connecting main to Drake's-place reservoir and the town; (6) Drake's-place reservoir, containing 3·6 million gallons, at an elevation of 146 ft. The total length of distributing mains was about 84 miles. The gathering ground was 4,885 acres, or 7¾ square miles in area. It was situated on the western slope of Dartmoor, which was a large moor of granitic formation, lying at a considerable elevation, and occupying an area of, roughly speaking, 25 miles by 15 miles. The average annual fall of Princetown (at the Northern extremity) was 80 to 90 in., while at the Head Weir Cottage (at the southern extremity) it was only 59 in. The average rainfall on the whole gathering-ground was 65 in. The total yield of the gathering-ground on the basis of three dry years would be equivalent to more than 12 million gals. per day. As the consumption of water in the town at present was only 4 million gals. per day there would be no necessity to look for an additional area of supply for some time. The greatest difference in level between the houses supplied was nearly 600 ft., and it was on this account that a series of reservoirs had been made between Roborough and Drake's-place, to supply the intermediate levels. In order to supply outlying districts, the levels of which varied greatly, and for which it was too expensive to build service reservoirs, it had lately been found necessary to fix pressure-reducing valves. Two had also been fixed in the town to reduce heavy pressures in low-lying districts from 130 lbs. per square inch to 80 lbs. The consumption of water in the year 1891 was 5¼ million gals. per day, or 58 gals. per head, and owing to the excessive waste it was resolved to divide the whole of the town into districts, and place waste-detecting metres on the mains. At the present time the consumption was 4 million gals. per day, or 43 gals. per head. The population supplied was 93,000. The trade supply was above the average, being 10 gals. per head. Probably the low price charged for water for trade purposes, viz., 2d. per thousand gallons, was conducive to the use of a larger amount than would otherwise be the case;



Plan of Ground Floor.

owing to the fact that the water was taken directly from the river, and was delivered to the consumers without filtration, and without having been improved by being stored in large reservoirs, the deposit in the distributing pipes was very great. For many years past the question of improving the supply to the town by constructing a large storage reservoir, and by laying pipes to take the place of the open leat, had occupied the attention of the Corporation. The late Mr. Thos. Hawksley, who was Consulting Engineer, prepared plans for a reservoir, to be known as the Head Weir Reservoir, for which Parliamentary powers were obtained in 1887. Before letting the contract for the dam trial pits were made across the valley, and it was then found that a layer of decomposed granite covered the bottom of the valley to a considerable depth, one trial pit reaching a depth of 100 feet without rock being found. On these facts being known, it was decided to abandon the site, and Mr. Hawksley proposed that power should be obtained to build a reservoir several miles higher up the valley at the junction of two streams. The Parliamentary plans were prepared in November, 1889, when a controversy arose between two sections of the Council with reference to the two sites. A poll of the town was taken in March, 1890, and the Harler scheme was thrown out. In July, 1891, he (Mr. Sandemann) was appointed Water Engineer, and in December of the same year he presented a report to the Water Committee, recommending—(1) the construction of a service reservoir ¾ of a mile lower down the valley than the proposed Head-weir reservoir, and (2) the laying of a line of 25-in. iron pipes from the proposed reservoir to Roborough, a distance of 4½ miles. The report was adopted after the opinion of Mr. J. Mansergh had been taken with regard to the engineering features of the scheme, and after a report from the late Mr. Wm. Topley on the geology of the site of the dams. An Act of Parliament was obtained after considerable opposition, and on August 9, 1893, the works were commenced, the Corporation having decided to lay the pipe-line and excavate the trenches for the dams themselves. The pipe-line was laid as nearly straight as was compatible with economy. The pipes formed an inverted syphon, the hydraulic mean gradient of which was 1 in 334. They were capable of delivering 10 million gals. per day when the reservoir was full, and 7½ million gals. per day when just kept fully charged, with 2 ft. of head on the inlet pipe. Air-valves were fixed at all the elevated points, and sluice-valves, provided with 6 in. by-passes, every half-mile. The reservoir, which was now in course of construction, was known as the Burrator reservoir. It would cover when completed an area of 116 acres. Its length would be 1·1 miles, and its greatest breadth half-a-mile. There would be two dams, one 120 yards long, and 77 ft. high, and the other 160 yards long, and 17 ft. high. There were many irregular joints in the surface rock, but the bed rock had a solid appearance. The principal difficulty in this trench were the vertical seams of soft material which appeared to have been originally open joints in the rock. The largest of the seams had been followed down for some distance, and it gradually narrowed to very small dimensions. The others had become watertight. The reservoir when completed would contain 651 million gals. The total estimated cost of the works was 150,000*l.*

The President, in opening a discussion on the papers, expressed a preference of hard woods over soft woods for street paving, for sanitary reasons, durability, and the reduction of wear and tear to a minimum. He believed that cheap omnibus fares in London, and other large towns, were mainly due to the introduction of wood paving, which had increased the life of the horses, and had reduced the wear and tear of the vehicles.

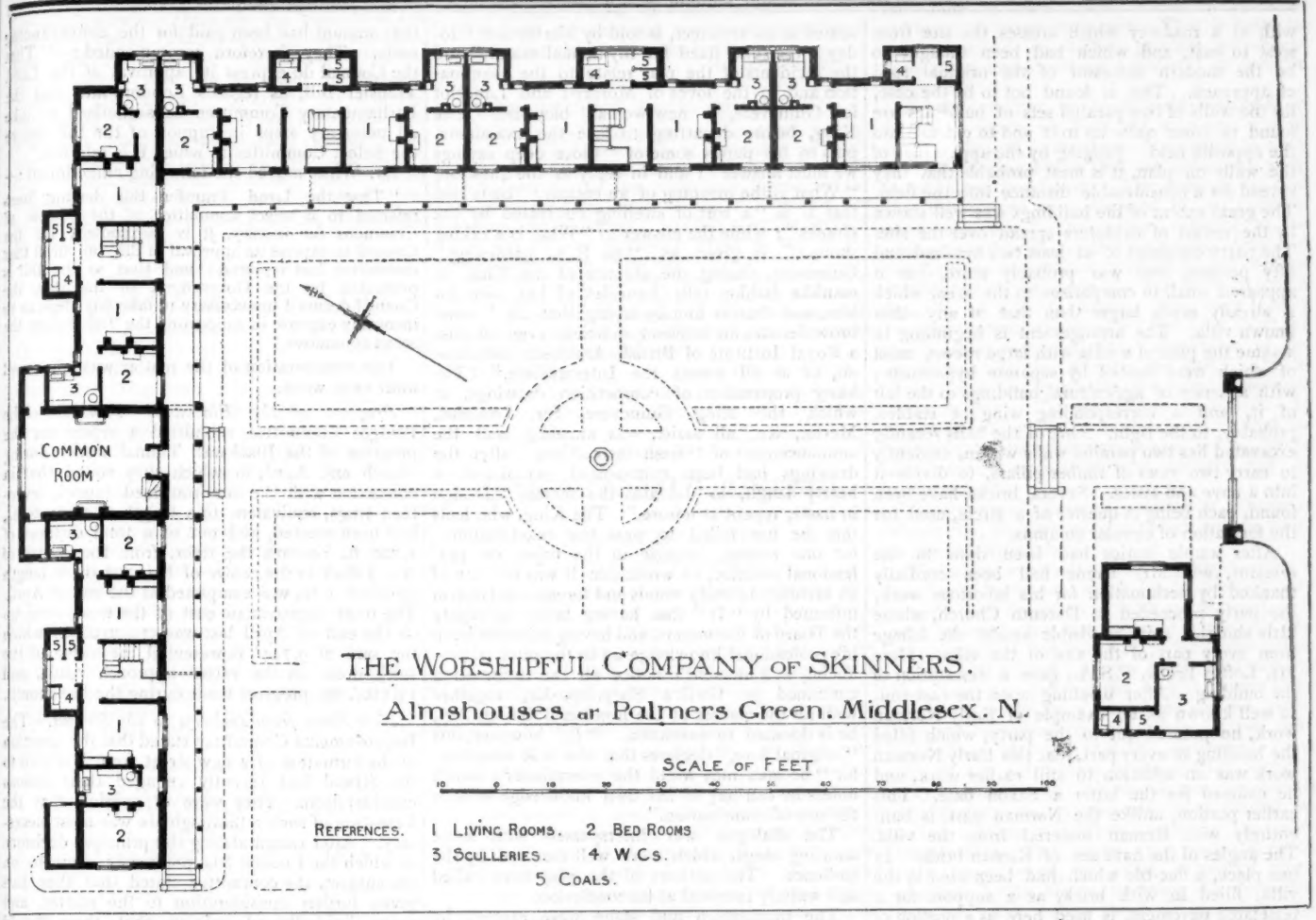
Mr. J. P. Barber, Islington, proposed a vote of thanks to the authors of the papers, and asked as to the wearing capacity of white Baltic timber, as compared with red, for street paving. As to the scheme for housing the working-classes, he considered Plymouth fortunate in getting an estimate at so low a price as 3½d. per cubic foot for buildings of the class proposed to be erected at Prince Rock. He did not know whether the explanation was that labour and material were cheaper in Plymouth than elsewhere, but he thought they would be fortunate to carry out the scheme at that price. Speaking of Mr. Sandemann, he congratulated him, and the Corporation which had his service, upon the evenness of the gradient at which the water-pipes had been laid. As a result he had saved a large number of air-valves, and had experienced no difficulty with air in the pipes. He asked Mr. Sandemann how he proposed to deal with the fissures in the rock at the Sheepstor dam.

Mr. Gloyne, Eastbourne, who seconded, asked if it was the intention of Plymouth to introduce the incandescent gas-light in the streets. He had recently lighted the main road leading from the station at Eastbourne with incandescent lamps. The first cost was heavier, but they obtained a much better light from the consumption of a smaller quantity of gas. The cost of renewals of mantles was in some cases heavy, but the main cause of breakage was the vibration of the traffic and not the exposed position of the lamps.

The vote of thanks having been accorded,

Mr. Paton, in reply, said that his experience of the white Baltic timber, as compared with red for street paving, was favourable to the former. As to the cost of the workmen's dwellings scheme the estimate of 3½d. per cubic foot seemed low, but Messrs. Hine & Odgers, the architects, had a wide experience in Plymouth, and their estimate might safely be taken. Since the plans had been prepared, however, alterations had been made which slightly increased the cost per cubic foot. The question of adopting the incandescent gas-light for the street lamps was raised at the last Council meeting. But the Council would hesitate to adopt it as they were considering the desirability of introducing the electric light.

Mr. Sandemann, in reply to Mr. Barber's


COMMON ROOM
THE WORSHIPFUL COMPANY OF SKINNERS.
Almshouses at Palmers Green. Middlesex. N.
SCALE OF FEET
REFERENCES. 1 LIVING ROOMS. 2 BED ROOMS
3 SCULLERIES. 4 W.CS.
5 COALS.

question, said he was following the fissures in the rock at the Sheepstor dam to a depth at which no water came through, and they would then be filled up with cement.

On the motion of the President, seconded by Lieut.-Colonel Jones, V.C., a hearty vote of thanks was accorded to the Mayor and Corporation for the use of the room.

The members attending the meeting were subsequently entertained to luncheon in the Corn Exchange, Plymouth, by the Mayor (Mr. Laws), who presided. The Mayor proposed the toast of the Association of Municipal and County Engineers, and referred in eulogistic terms to the great improvements made in sanitary engineering during the last sixty years. The President acknowledged the toast. Mr. Barber (Islington) proposed the healths of Mr. Paton and Mr. Sandemann, and referred in high terms of praise to the splendid work done by those gentlemen in Plymouth. Both gentlemen responded to the toast.

The afternoon was devoted to visits to the Naval Works at Devonport Dockyard, the Hoe at Plymouth, and the New Sanatorium.

On returning on Friday evening, the members were entertained to tea at the Corn Exchange, by the Borough Engineer, the Water Engineer, the Consulting Engineer, and the Town Clerk; and also to the performance of "Faust" at the Theatre Royal in the evening.

The second day of the meeting was devoted to a visit to the important engineering works in connexion with the new Burrator reservoir.

Illustrations.

THE PUMP-ROOM BUILDINGS, BATH.

THE illustrations, one of which is at present exhibited at the Royal Academy, show the revised design which is now being carried out. The principal alteration from the original plan is that, with the exception of the museum, all the accommodation is now on the ground-floor—the level of the present Pump Room. Also, the *scholæ* only of the old Roman bath will now be covered over, leaving the area of the water open to the sky, as shown in the view. Over the *schola* on the north side is a covered terrace opening from the new promenade.

The contract for the work has been taken by Messrs. Jacob Long & Sons, of Bath.

J. M. BRYDON, Architect.

ORGAN CASE, ST. SAVIOUR'S CHURCH, SOUTHWARK.

THE proper position for the organ in this church, after the rebuilding of the nave, was for a considerable time a matter of animated discussion.

Many suggestions were made, and models were even erected, but it was ultimately agreed that there was no place for it within the church which was not open to grave objections, either acoustic or architectural. No alternative remained but the erection of an organ chamber—in many ways an unsatisfactory expedient, but in this case inevitable.

The only place for it was the angle between the east wall of the south transept and the south choir-aisle on part of the site of the chapel of St. Mary Magdalen, which was pulled down in the early part of the present century. Two arches in the choir-aisle and one in the transept, formerly opening into this chapel, have been cleared out without interference with any ancient work, and it is in front of the latter that the case shown in the drawing will be erected.

The organist's console will be immediately behind the choir-stalls on the south side.

The organ is being built by Messrs. T. C. Lewis & Co., and, together with the organ-chamber, is the gift of Mrs. Courage, of Queen's Gate, as a memorial to her husband.

The drawing is exhibited in the Royal Academy.

ALMSHOUSES FOR THE SKINNERS' COMPANY, PALMER'S GREEN, N.

THESE almshouses have just been erected under the provisions of a scheme adopted by the Charity Commissioners in 1891, by which the Almshouse Charities, one at Great St. Helens, the other at the Mile End-road, were merged into one.

The Company hesitated for a long time before they finally agreed to abandon the picturesque cottages at Mile End, and it was only out of consideration for the health and well-being of the occupants that they did so, as the rooms were damp and ill-arranged, and without the most ordinary conveniences of everyday life.

The site which was ultimately acquired at Palmer's Green is a good one, with roads on two sides, and with some fine timber on it.

There are suites for eighteen occupants, each having a sitting-room, a bedroom, and scullery, with sink and copper, the water-closets and the coals being placed in the staircase hall on each floor. An endeavour has been made by simplicity of outline and absence of obtrusive detail, to erect a building which should add to the feeling of rest and quiet which naturally belongs to such a place.

The gardens have been well-stocked with all the old-fashioned flowers, a sundial forms the centre-piece, and at the end of the main walk is a common-room panelled and furnished, where the inmates can study the daily paper and enjoy one another's society.

The materials used are red bricks and tiles, Ancaster stone for dressings, all external woodwork is oak, and the gable decorations are in cement.

The drawing is exhibited at the Royal Academy.

W. CAMPBELL JONES.

THE KENT ARCHÆOLOGICAL SOCIETY AT DARENTH.

THE progress of the work of excavation at the great Roman villa at Darenth has been continuous since the subject was last referred to in these pages, and a greatly extended area of land has been fenced in and placed at the disposal of the workmen.

On Tuesday last, the 21st, a special meeting of the Kent Archæological Society was held on the site, for the purpose of inspecting the work that has already been done, and to investigate the remains. The day was fine, and the gathering was a large one. On arrival, the party, with Earl Stanhope, the President of the Society, assembled around Mr. George Payne, F.S.A., who has had the direction of the excavations from the commencement, and he gave an interesting account of the discovery and of the remains that have been unearthed, after which some planking, which had been placed for a protection against a large portion of walling covered with fresco decoration, was removed. The colouring was greatly faded owing to the length of time that the work has been buried, but sufficient remains to show that the pattern was one of well-defined curves and scroll-work in red, with lines in darker colours. Almost all the walls appear to have been painted, and traces of the plastering still remain here and there. One of the latest discoveries has been that of a tesselated pavement of ordinary squares of red brick similar to the others, but resting upon parallel walls of chalk laid in puddled clay, instead of upon the detached *pylæ*, as elsewhere. Mr. Payne described the position of the various apartments, aided by a plan drawn to a large scale. It had been supposed that the southern limit of the huge building would have been met

with at a roadway which crosses the site from west to east, and which had been thought to be the modern successor of the original road of approach. This is found not to be the case, for the walls of two parallel sets of buildings are found to come quite up to it and to extend into the opposite field. Judging by the appearance of the walls on plan, it is most probable that they extend for a considerable distance into the field. The great extent of the buildings was well shown by the crowd of explorers spread over the site. The party consisted of at least two hundred and fifty persons, and was probably more, but it appeared small in comparison to the area, which is already much larger than that of any other known villa. The arrangement is beginning to assume the plan of a villa with large rooms, most of which were heated by separate hypocausts; with a series of agricultural buildings to the left of it, and a corresponding wing of stables, probably, to the right. One of the halls recently excavated has two parallel walls within, evidently to carry two rows of timber pillars, to divide it into a nave and aisles. Several bricks have been found, each being a quarter of a circle, used for the formation of circular columns.

After ample justice had been done to the remains, and Mr. Payne had been cordially thanked by acclamation for his laborious work, the party proceeded to Darenth Church, whose little shingled spire is visible amidst the foliage from every part of the site of the villa. Here Mr. Loftus Brock, F.S.A., gave a description of the building. After dwelling upon the east end, so well known as an example of Early Norman work, he pointed out to the party, which filled the building in every part, that this Early Norman work was an addition to still earlier work, and he claimed for the latter a Saxon date. This earlier portion, unlike the Norman part, is built entirely with Roman material from the villa. The angles of the nave are of Roman brick. In one place, a flue-tile which had been used in the villa, filled in with brick, as a support for a tesselated pavement, is used here as a portion of the walling without the filling in having been disturbed. In other places pieces of brick walling have been built up in blocks. The church has portions of every other style, and it forms a very interesting study.

THE ARCHITECTURAL ASSOCIATION.

THE Annual Soirée of the Architectural Association was held on the 16th inst., at the headquarters of the London Scottish R.V., James-street, Buckingham-gate, S.W., a large number of members and friends being present, including the President, Mr. E. W. Mountford, and the President-elect, Mr. W. D. Caröe.

On recent previous occasions the entire evening has been devoted to the performance of a burlesque; but this year, the managers, probably conscious of their inability to produce a long play which would embrace a sufficient number of professional or architectural topical allusions to justify its production, wisely varied the programme, and gave a "grand variety entertainment," as well as a one-act burlesque. The following professional lady and gentlemen assisted in the entertainment by permission of their respective managers, and their parts were very warmly received by the audience: — Miss Ray Maskell and Messrs. Frederick Upton, Arthur Helmore, G. C. Lovell Fry, Dudley Causton, Arthur Faber, F. Baring Ranalow, Arthur Nelstone, Harry Tate, Charles Birkett, R. B. Hopkins, Fred Frampton, and George Robey. After a reel by Captain E. J. M. Gore, Sergt. T. F. Earle, Sergt. T. Jackson, Piper Robertson and Pipe-Major A. L. Reith (members of the London Scottish R.V.) and a brief interval, the burlesque, entitled "King Arthur: an Examination of the Past," by Arthur W. Earle and E. Howley Sim, was performed. The characters were:—The King, Mr. J. Dixon Butler; Sir Lancelot, Mr. Albert Harris; Sir Mordred, Mr. H. Phillips Fletcher; Sir Percival, Mr. C. V. Cable; Merlin, Mr. R. Minton Taylor; "It," Mr. T. H. Lyon; and Guinevere, Mr. C. B. Carvill. Upon the "bill" it was stated that the scene was "Camelot, the seat of the District Surveyor, devised and executed by Mr. E. Graham Simpson; period: inquire at King William-street, Charing Cross. 'Time of day' indicated by the cartoon on front page." The cartoon, for which apologies were made to Olympia, Limited, represented the Architectural Association knight on horseback going forth to fight, scattering on his way the imps of Vandalism, the London Building Act, the Memorialists, Bogus Competitions, Ghosts, Exams., &c.

In the play itself, the King, who was represented as an architect, is told by Merlin that "to-day is the time fixed for thy annual exam.," and the incidents of the play relate to the examination and to the loves of Mordred and Lancelot for Guinevere, a new-woman bicyclist. The King, before departing to face the examiners, puts to his pupils some of "those deep sayings we must answer"; and in reply to the question, "What is the meaning of an entasis?" he is told that it is "a sort of swelling cultivated by the Greeks"; while the answer to "What is a raking shore?" is given as "an R.A. gardening." Guinevere, during the absence of the King, in manlike fashion tells Lancelot of her love for him, and flatters him by saying that his "*broad* brow denotes an intellect sufficient even to pass a Royal Institute of British Architects' examinaon, or at all events the Intermediate." The hasty preparation of competition drawings, at which the King, Guinevere, Sir Lancelot, Merlin, &c., all assist, was amusing, and the announcement of "fresh instructions" after the drawings had been commenced occasioned a hearty laugh, as did also the motto, "Design in haste, repent at leisure." The King, who feels that he has failed to pass the examination—for one reason, because in the paper on professional practice, he wrote that it was no duty of an architect to study woods and forests—is later on informed by "It" that having failed to satisfy the Board of Examiners, and having failed to keep his professional knowledge up to the pitch of producing at a moment's notice all the information contained in Gwilt's Encyclopædia, together with all the clauses of the London Buildings Act, he is doomed to execution. "It," however, his "original love," declares that she will save him, for "no man may wield the executioner's sword unless he can say of his own knowledge what is the use of examination."

The dialogue was interspersed with some amusing songs, which were well received by the audience. The authors of the play were called and warmly received at its conclusion.

The proscenium and stage were erected by Messrs. D. C. Hancock & Co., of Stratford.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday, in the County Hall, Spring Gardens, Mr. Arthur Arnold, Chairman, presiding.

Unification of London.—Almost the entire sitting was taken up with a discussion on the Unification of London, the following motion and amendment, submitted by Mr. McKinnon Wood and Alderman Ritchie respectively, being considered:—

Motion.—"That the Council do represent to Her Majesty's Government the urgent importance of introducing in the present Session of Parliament a Bill, providing, on the general lines of the Report of the recent Royal Commission, both for the amalgamation of the City and County of London, and for the creation of local councils, beginning with those areas which are already suitable as regards size and population."

Amendment.—"That the institution in the place of the present Council of a single municipality embracing the whole of London would entail grave interference with the independence of Local Authorities and not conduce to efficient administration, and that in the opinion of the Council the interests of good government in London will be best served by strengthening Local Authorities and by transferring to them such of the powers now possessed by the Council as can be properly exercised by them, and at the same time by considering in conference with the Corporation of the City of London whether certain of the powers now possessed by them should be entrusted to the Council."

The amendment was rejected by 11 votes—68 voting against it, and 57 for.

Lieut.-Colonel Ford then moved that the following words be added—"and making due provision for the protection of the ratepayers outside the City from any inequitable burden in respect of the outstanding debts and liabilities of the City Corporation."

This amendment was also defeated, and the original motion was then agreed to.

Cheapening Land Transfers. — The Parliamentary Committee, reporting on the Land Transfer Bill, which had been referred to a Select Committee of the House of Commons, stated that the new system proposed by the Bill would tend to enormously reduce the conveyancing cost of transfer. The Council and the Board of Works had expended upwards of 1,000,000*l.* in costs in connexion with the acquisition of property for street and other improvements, and the valuer estimated that at least one-fifth or one-sixth of that amount had been paid for the conveyancing costs. They therefore recommended:—"That the Council do express its approval of the Land Transfer Bill, as regards London, and that the Parliamentary Committee be authorised to take all necessary steps in support of the Bill before the Select Committee to which it is referred."

Dr. White moved the following amendment:—

"That the Land Transfer Bill having been referred to a select committee of the House of Commons for inquiry, it is inexpedient for the Council to express its approval of the Bill until that committee has reported; and that as the Bill is promoted by the Government of the day, the Council deems it unnecessary to take any steps or to incur any expense in supporting the Bill before the select committee."

The consideration of the matter was adjourned until next week.

Progress of the Blackwall Tunnel. — The Bridges Committee submitted a report on the progress of the Blackwall Tunnel works during March and April, in which they stated that in connexion with the cast-iron-lined tunnel, seventeen rings, equivalent to a length of 14 ft. 6 in., had been erected, and out of a total distance of 1,220 ft. beneath the river, from the centre of No. 3 shaft to the centre of No. 2 shaft, a length of 910 ft. 6 in. was completed at the end of April. The total approximate cost of the work done up to the end of April last was 510,305*l.*, of which the sum of 9,724*l.* represented the value of the work done on the raised approach roads, and 14,110*l.* the progress made during the last month.

New Street from Holborn to the Strand.—The Improvements Committee stated that the question of the formation of a new street from Holborn to the Strand had recently engaged their serious consideration. They were of opinion that the formation of such a thoroughfare was most necessary. After recapitulating the principal decisions at which the Council has previously come to on the subject, the committee stated that they had given further consideration to the matter, and were decidedly of opinion that they should proceed with the preparation of a scheme. But before they could do so, it seemed to them absolutely necessary in view of all that had gone before that they should have some clear indication of the Council's views, especially as since the question was last before the Council an understanding seems to have been arrived at in connexion with the betterment clauses of the Tower Bridge (Southern Approach) Bill, which they had no doubt would considerably affect the proposed new street from Holborn to the Strand. To facilitate an expression of opinion on the part of the Council, they recommended:—"That the Improvements Committee be instructed to prepare a scheme for the formation of a new street from Holborn to the Strand, subject to the condition that part of the cost of the improvement shall be dealt with on the basis of the compromise arrived at in connexion with the betterment clauses of the Tower Bridge (Southern Approach) Bill."

The report was opposed, and its consideration was adjourned.

After transacting other business, the Council adjourned.

ARCHITECTURAL SOCIETIES.

LIVERPOOL ARCHITECTURAL SOCIETY.—Under the guidance of Professor Simpson, director of the School of Architecture and Applied Arts, the student members of the Liverpool Architectural Society paid a visit on the 16th inst. to the Spring Exhibition at the Walker Art Gallery. The visitors devoted their attention to the architectural drawings. In the course of the review the professor pointed out the qualities of execution in different drawings and the best means of achieving similar effects. He also drew attention to instances in which sculpture was intimately associated with architecture, as in the design by Mr. John Belcher for the building of the Institute of Accountants, London, and the same architect's designs for the new South Kensington Museum. In reference to the drawings of interiors, he showed the effect and advantages of various styles of decoration, and especially of painting. The exhibition being especially rich in examples of Gothic and Elizabethan, these received considerable attention. A vote of thanks to Professor Simpson was cordially passed.

LINCOLNSHIRE ARCHITECTURAL ASSOCIATION. — The Architectural and Archæological Association for the counties of Lincoln and Nottingham will meet this year at Stamford on Wednesday and Thursday, June 19 and 20. On the first day an excursion will be made to Duddington, Tixover, Barrowden, Harringworth,

Lyddington (where there are the remains of the Bishop's Palace), Seaton, Morcott, North Luffenham, Edithweston, and Empingham. On the second day a visit will be made to Barnack, Bainton, Ufford, and Wittering. At half-past two o'clock the company will visit the six churches and other places of antiquarian interest in the town of Stamford, beginning with St. Mary's Church, and afterwards, those who wish to do so, will visit Burghley House, near Stamford. The annual dinner will be held on the Wednesday evening at Stamford.

ARCHÆOLOGICAL SOCIETIES.

BRITISH ARCHÆOLOGICAL ASSOCIATION.—On the 15th inst. a meeting of this association was held, the Rev. J. Cave Browne, M.A., in the chair. The Hon. Sec. announced that by the cordial invitation of the Mayor and Corporation of Stoke-upon-Trent, the Congress would be held in that town and the neighbourhood in August next, commencing on Monday, the 12th, under the presidency of His Grace the Duke of Sutherland, K.G. Mr. Cecil Davis exhibited some illustrations of monumental brasses, and the Chairman some portions of Roman concrete and tile found at Dover. Miss Edith Bradley read a very interesting and exhaustive paper upon Glastonbury Abbey, which was well illustrated by plans and engravings, and by a large series of photographs. This lady also brought for exhibition some curious relics from the site of the prehistoric village of Glastonbury. An animated discussion ensued, in which Mr. Barrett, Mr. de Gray Birch, Mr. Rayson, and others took part.

Correspondence.

To the Editor of THE BUILDER.

"THE PEISISTRATEAN PARTHENON."

SIR,—In your last number, May 18th page 370, in noticing a reference to the above subject you observe :—"If this refers to the foundations lying below the present Parthenon, and presumably begun either by Cimon or Themistocles," &c. Until the objections I have urged in *The Journal of Hellenic Studies*, vol. xii. p. 275, and vol xiii. p. 32, and in the *Builder* for February 5th, 1894, in opposition to this new theory of a post-Persic origin of those foundations have been answered, I cannot allow the observation referred to to pass without challenge. F. C. PENROSE.

ARCHITECTURAL ASSOCIATION SKETCH-BOOK.

SIR,—Referring to Mr. Leonard Stokes' letter in your paper of last week with reference to the above publication, wherein he states that the "New Series" is completed, perhaps you will be good enough to allow me to draw attention to the "Third Series" of the Sketch-Book, of which I am secretary, and the first six parts, vol. i., of which have been issued. This, I think, may be interesting to those who, perhaps, might wish to become subscribers but have not yet sent me their names.

EDG. H. SELBY.

8, *Buckingham-street, Adelphi*, May 22, 1895.

THATCHED COTTAGES IN LONDON.

SIR,—Your interesting Note in last week's issue, referring to the survival of an old thatched cottage in Paddington, recalls to my mind the existence of another, in that old-world part of Camberwell lying between the Peckham-road and Denmark Hill. It is situated, I think, in "The Grove."

The walls are plastered, and a rustic verandah is carried along the whole of the front.

HENRY DENERY.

THE RECENT SALE OF BLOCKS.

SIR,—I regret that your correspondent (p. 359 *ante*) considered it necessary to contradict my statement. The Bewick blocks, Bewick house, &c., were left by will by the late Miss Jane Bewick to the family of the late Robert Ward, of Newcastle, her relation and my father. The sale after the death of Miss Bewick was necessary owing to two of the beneficiaries being under age.

The Bewick blocks were, therefore, sold by auction and bought in by us. The price paid by us to keep them in the family should, I think, conclusively show that they and they only are the famous blocks known as "The Bewick blocks."

May 18, 1895. A. J. BEWICK WARD.

*** WE do not think it conclusively shows anything, except that our correspondent set a high value on them.—ED.

The Student's Column.

BRICKS AND TERRA-COTTA.—XXI.

ABSORPTION OF WATER.

THE property of absorption possessed by a brick may be regarded from two points of view. If it absorbs much moisture there is the liability of its becoming shattered by the action of frost, of producing damp walls, of vegetating, and of being destroyed by chemical action introduced into the material by atmospheric agency, or through the medium of the decaying vegetable matter on its surface. On the other hand, if the brick is practically non-absorbent there is a difficulty in getting mortar to adhere to it, and indeed of using it for building purposes at all unless set in cement, or other expensive material. Everything being considered, it is, however, desirable that the brick should not be very absorbent, for, as mentioned in a previous article, some practically non-porous bricks can be made rough on the exterior, sufficiently so to afford a good enough key for the mortar or cement used. In those cases where this roughness cannot be satisfactorily produced it may be permissible to "frog," "score," or indent its surfaces to assist the mortar in securing a firm wall. Such indentations weaken the brick, and ought not to be allowed except on very unabsorbent material; bricks of this character, however, are generally strong enough to be able to part with a little of their strength without suffering in the slightest degree by so doing.

So far as paving bricks are concerned the less they absorb the better, but it is absurd to speak of any class of brick or terra-cotta as though it were impervious to moisture. At any rate, all the paving bricks submitted for our examination permit absorption, sometimes to a greater extent than those whose virtues in that respect are not so widely extolled. We hear of non-porous bricks for reservoir purposes; at an exhibition not long since they were made much of, but an examination of the material in the brickyard where they were manufactured showed us that even if the bricks could be produced up to the samples at the exhibition alluded to—a point on which we were not quite convinced—they were by no means non-porous, or, rather, non-absorbent.

For certain paving purposes, however, it is necessary that the bricks shall be fairly absorbent, such, for instance, as in those cases where they are impregnated with bitumen, a process which has been in considerable favour in parts of Germany for many years past. That is quite an exception, and on sanitary grounds we should demand as non-absorbent a material as possible for paving.

Another matter of considerable interest, in regard to which we have not as many data as could be desired, is the power of moisture to swell walls, producing effects that are sometimes attributed to bad foundations. The student will find that this subject was discussed in our columns some years ago.* One writer, referring to the absorption of bricks in this connexion, remarked that he knew an instance in which a drift of snow had lodged on the inside of a wall 90 ft. in length by 3 ft. or 4 ft. in height. The snow nearly covered the wall on one side; the other (next the road) being free, and the "absorption of the bricks was such that it upset the wall." On examination it was found that the foundations were perfectly good. The wall had to be rebuilt. In the other case quoted it is clearly shown that the expansion of the brickwork, which led to cracks and general instability, was entirely due to absorption.

We have made several experiments relating to absorption, the particulars of which will be found in the following table.

The above were selected for experiment from a number of bricks sent to us (some of which have already been described in other connexions), as it was believed that they covered practically the whole field of the range of possible absorption. It would be difficult to find a brick absorbing less than one per cent. of its weight, after being placed in water for a week, and we can hardly imagine one imbibing more than 25 per cent. Moreover, all the bricks mentioned, save No. 15, are well-known in the market, being in very common use. All the figures are strictly comparative, the experiments being carried out under uniform conditions, and in the same temperature. The bricks were placed in water in a large vessel, on edge, supported where necessary by flat blocks, to bring the uppermost face of each brick about ¼ in. above the surface of the water. Experience had shown us that by completely immersing a brick, the air did not get an opportunity of escaping from its pores with the same facility as when one surface was left out of water. This disability, it was found, materially impaired the results of the rate of absorption. By arranging the experiments in the manner described there can be no doubt that each brick absorbed the maximum quantity of water it was capable of doing; at any rate, there was no water-pressure from above to retard the expulsion of air. Higher figures could have been obtained by placing the bricks in the receiver of an air-pump, but this was deemed inadvisable, as introducing an element not present in practice.

Regarding the experiments as they stand, we find that the wire-cut "Metalline" brick from the neighbourhood of Chester was the least absorbent after being allowed to stand in water for one week, whilst the brick made of Kieselguhr earth was the most absorbent, taking in water to the extent of 25 per cent. of its dry weight. In many respects, however, the last-mentioned brick is abnormal. The student will remember that it is entirely siliceous—being made of the frustules of diatoms—and is of use only for special purposes; it is not an ordinary building brick. The next most absorbent brick is one used extensively in the neighbourhood of London, coming from Dunton Green, near Sevenoaks.

* The *Builder*, 1861, p. 52; 1866, p. 238.

Bricks and Terra-cotta.—Absorption of Water.

LOCALITY, &c.	DESCRIPTION.	DIMENSIONS.	DRY WEIGHT.	ABSORPTION OF WATER PER CENT. OF DRY WEIGHT.				
				1 second.	1 minute.	30 minutes.	1 day.	1 week.
		Inches.	lbs. ozs.					
1. Buckley, near Chester	Wire-cut "Metalline"	8·9 by 4·2 by 2·5	8 0½	—	·38	·38	·77	1·16
2. " "	Pressed "Metalline"	8·6 by 4·1 by 2·4	7 7	·42	·42	·84	1·26	1·26
3. Heathfield, Newton Abbot	Vitrified Plain Paving	9·1 by 4·4 by 2·0	6 12	—	—	—	1·38	1·85
4. Ruabon, N. Wales	Blue "Facing"	8·8 by 4·2 by 2·9	8 9½	·36	·36	·36	1·46	2·54
5. " "	Red "Facing"	8·8 by 4·2 by 3·0	8 13½	·35	1·06	2·12	5·31	5·31
6. Heathfield, Newton Abbot	Best "White glazed"	8·8 by 4·3 by 2·8	7 9½	·41	·82	2·88	5·76	6·17
7. Buckley, near Chester	Brook Hill Blue	9·1 by 4·3 by 2·5	7 4	1·72	5·17	6·03	6·90	8·18
8. " "	Flintshire white	9·0 by 4·3 by 2·6	7 4	2·15	6·46	8·62	10·34	10·34
9. Bracknell, Berks.	Red hand-made facing (No. 12)	8·9 by 4·1 by 2·5	6 4½	·49	2·94	10·94	12·93	12·93
10. " "	Machine-made wire-cut red "Facing" (No. 13 *x*)	9·0 by 4·3 by 2·6	6 9½	·47	1·89	9·47	13·74	13·74
11. " "	Hand-made pressed red "Facing" (No. 4)	8·8 by 4·3 by 2·5	5 15½	2·09	7·85	13·61	14·13	14·13
12. Dunton Green, near Sevenoaks	Red	9·1 by 4·3 by 2·5	6 4	1·00	4·00	13·50	15·00	15·00
13. Bracknell, Berks.	Red "rubber" (No. 9)	9·8 by 4·9 by 3·1	9 3	2·04	6·80	13·94	15·30	15·30
14. Dunton Green, near Sevenoaks	White "Gault"	9·0 by 4·3 by 2·5	6 4	1·50	6·50	18·00	20·00	20·50
15. "Kieselguhr" earth	White	7·9 by 3 8 by 2·3	2 2	19·11	19·11	19·11	23·52	25·00
16. Ruabon, N. Wales	Terra-cotta block	Irregular moulding	12 2	·51	·51	1·80	5·67	5·67

This imbibed 20·5 per cent. during the week, and made a loud hissing sound (escaping air) when first brought in contact with the fluid. It may be taken as one of the most absorbent bricks used for building purposes, though its pleasing appearance would not lead one at first sight to think so. With reference to the Buckley bricks, a glance at the table shows that their absorptive properties are very variable; it is satisfactory to note that the designation of each variety is sufficiently clear to prevent mistakes. Seeing that they are all from one firm, the experiments clearly show that the manufacturers possess full control over the raw materials and burning; we cannot say much for the appearance of the bricks, but they are rough enough exteriorly for all practical purposes. The vitrified plain paving brick is well described by its name; it only absorbed 1·85 per cent., and is comparable in some respects with the smooth brick No. 4 from Ruabon, only that the latter is red and the former white. The other bricks fall into an intermediate position so far as total absorption is concerned.

The rate at which water percolated during the week presents many striking anomalies, as difficult to explain as the results on building-stone detailed in our columns a few weeks ago (*ante*, p. 294). The paving-brick from Heathfield absorbed no appreciable quantity for half-an-hour, but at the end of a day it took in 1·38 per cent. On the other hand, a less absorbent brick (in the end) imbibed ·42 per cent. on being dipped in water for one second only, and the same material drank as much in one day as it did in a week. Comparing the results of a one-day immersion with those for the week, we find that the most absorbent bricks—from 10·34 to 20·5 per cent.—arrived, with one slight exception (No. 14), at total absorption in twenty-four hours, and, indeed, were almost fully saturated in thirty minutes. There does not seem to be much relationship between the results obtained in one minute as compared with those in thirty minutes. Thus one brick from Bracknell, which did not appear to be very absorbent during the first dip, or during the minute, utterly broke down in half-an-hour, and arrived at totality in one day. Another from the same district, presenting the same features at the commencement of the experiments, imbibed as much as 10·94 per cent. in thirty minutes. A remarkable case was presented by brick No. 8 from near Chester. With the exception of the abnormal material No. 15, it absorbed more on being dipped than any other in the list, but after shooting ahead during one minute's immersion it pulled up, and in the end came out with a lower figure than others which it had outstripped in the beginning. Finally, the experiments on ordinary bricks seem to indicate that, when the piece dealt with absorbs as much as 10 per cent. during twenty-four hours, there is no necessity to prolong the immersion; for bricks below that figure, and especially below 5 per cent., it appears to be desirable to continue for a week. Indeed, it would have been better to allow at least a fortnight for bricks like Nos. 1, 3, 4, 6, and 7, which were certainly absorbing at the end of the week. The only difficulty to contend with in such long immersions is the liability of chemical change. We had a striking proof of that even after the first two or three days, in dealing with the bricks mentioned in the table. Some of the red bricks from Bracknell being placed in the vicinity of the White Gault from Dunton Green discoloured the latter to such an extent as to quite disfigure it. It was not merely a surface coloration; it extended at least ¼ in. into the interior. The red colouring matter was iron, but there was not enough of it by weight dissolved to materially interfere with the experiments. This very clearly shows, however, the folly of erecting a building coursed with white and red bricks when both are very absorbent and the red has so little hold of the iron of which it is partly composed—unsightly iron stains are bound to appear.

The last line of the table refers to a moulded block of terra-cotta from Ruabon. Roughly speaking, this measured 8 × 6 × 4½ in., with a ridge on one face about 1½ in. in height; it was hollow in the interior, and the walls varied in thickness in different parts of the block, from 1 in. to 1½ in. This absorbed 5·67 per cent. in one day, practically the same as the red "facing" brick from the same locality, which it seems to very closely resemble in other respects also.

Mr. Chas. Barry found that a block of terra-cotta which, when dry, weighed 20 lbs. 9 ozs., had increased in weight by 15½ ozs., after being immersed in water for thirteen days; to make this result comparable with our table, this works out at 4·71 per cent. of the dry weight.

It is possible in regard to many kinds of terra-cotta that the exterior coating applied modifies the rate of absorption, but that does not hold good for the Ruabon sample we tested, the shell of which was solid and homogeneous. The results on every sample of brick, &c., tested in connexion with absorption, are recorded in the table.

GENERAL BUILDING NEWS.

NEW CHURCH IN ROSEMOUNT VIADUCT, ABERDEEN.—The Earl of Moray has just laid the memorial-stone of a new church, at present being erected on the west side of Rosemount Viaduct, and with front also to Stephenson-street, for the Bonaccord Free Church congregation. The church is to seat 750, and underneath there is ample hall and class-room accommodation. The cost will be 6,100*l.* Messrs. Ellis & Wilson, of Aberdeen, are the architects.

COTTON EXCHANGE, LIVERPOOL.—In order to provide a Cotton Exchange for Liverpool, it is proposed to reconstruct Brown's-buildings for that purpose. Practically the whole of the central portion of Brown's-buildings will be required for the Exchange, though there will still continue to be offices on either side, and also in the upper portion of the building. The Exchange will be 150 ft. long and 50 ft. wide. The room will be lighted principally by two large dome lights covering areas above, but there will be also windows at either end of the Exchange and Rumford-street. The chief entrance will be by a grand staircase from Rumford-street. Another entrance will be provided from Rumford-street, and for the convenience of business people means have been taken whereby on each of the other sides access will be possible. A board-room and secretary's office will be provided, and in addition accommodation for telephones. Balconies are to be constructed at both the Exchange and Rumford-street ends overlooking the room. The work of gutting the interior of the building has been one of constructional difficulty, but under the supervision of Mr. J. Francis Doyle, the architect for the Brown's-buildings Company, Limited, this has so far been accomplished. Mr. William Gunning is the clerk of the works.

NEW BOARD SCHOOLS, ABERDEEN. — The Aberdeen School Board has now accepted offers for the erection of a mixed school at Walker-road, Torry. There is accommodation for 1,300 pupils, and the buildings will include a science-room and a gymnasium. Key's mechanical system of ventilation has been resolved on, and the heating will be by steam. The School Board declines to publish the amount of the individual contracts, but the total is 10,112*l.* 13s. 9d., which does not include furnishings. Messrs. Ellis & Wilson, Aberdeen, are the architects.

BOARD SCHOOLS, PEN MILL, YEOVIL.—The schools which have just been erected in Brickyard-lane for the Yeovil School Board by Mr. Pollard, of Bridgwater, from plans by Mr. J. N. Johnston, are now completed. Accommodation is provided for 300 children in the mixed department, and for 250 infants, the infants and the mixed department being in two separate blocks.

CONGREGATIONAL CHURCH, ROTHBURY, NORTHUMBERLAND.—On the 15th inst. the foundation-stone of a new Congregational Church at Rothbury was laid by Lord Armstrong, on a site in the main street of the village. The new church is being built upon the site of some old almshouses, which, before they were pulled down, were the only remaining relics of old Rothbury, bearing the date 1690. These will be replaced by new almshouses, to be built at the lower end of the village. The new church will provide accommodation for 300 people. It will be built of freestone, and the cost will be about 1,400*l.* It is to be in the Gothic style, and will be entered by a porch. There will be a vestry and lavatories at the back, and, at the rear of the pulpit, an organ-loft. The architect is Mr. Stevenson, of Berwick, and the contractors are as follows:—Masonry, Mr. Thomas Muckle; joinery, Mr. D. Bailey; slating and plaster work, Mr. John Gregory; plumbing, Mr. W. G. Mackay.

CHURCH, WILLESDEN GREEN.—The new church of St. Gabriel's, Willesden Green, is to be erected at the corner of Walm-lane and Chichele-road, Willesden Green, to supersede the present iron mission church. Mr. R. P. Day is the architect, and the new church will cost about 6,000*l.*

CARDIFF EXHIBITION. — A meeting of the building committee of the Cardiff Exhibition, 1896, was held on the 20th inst. The architect, Mr. Edwin Seward, produced plans of the building and submitted a report, which stated that the plan took the form of a double T, the upper cross of which is of double width and isolated from the other portion by a wide covered way, so that the sound of machinery, &c., may be cut away from the said other portion. This covered way can be further extended in length, if desired. The architect does not suggest any complete separation of the main buildings because of the disadvantage to visitors in wet weather of passing through the grounds from one building to another. The plans were approved, subject to certain alterations in detail. The question of the introduction of a sanitation section was discussed, and it was resolved that a space be set apart for the purpose.

HOSPITAL, GLASGOW.—The memorial-stone of the Glasgow Samaritan Hospital for Women has just been laid by Lord Blythswood. The building when completed will consist of two distinct blocks—the hospital and administrative—connected by corridors. The hospital block will consist of two floors, each containing four wards, viz., one ward for six patients, one ward for four patients, two wards for two patients each, and a convalescent room. Accommodation will thus be provided for twenty-eight patients. A ward scullery will be placed to all the wards on both floors, and lavatory and bath-room accommodation will be provided in a building jutting out from the main block and cut off by a cross-ventilated lobby. The administrative block will consist of three floors. On the ground floor will be placed waiting-room, board-room, matron's rooms, and house surgeon's rooms. On the first floor sleeping and sitting-room accommodation will be provided for nurses. On the second-floor bed-room accommodation will be provided for the servants, and on this floor will be placed the kitchen, scullery, and stores. On the ground-floor abutting the administrative block will be placed the operating theatre, with accommodation for twenty-four students, and a lecture-room adjoining seated for forty students. Above the lecture-room provision will be made for a reading-room, library, and museum. A hoist for patients will be placed between the entrance-door and operating theatre. The outhouses, consisting of mortuary, post-mortem rooms, wash-house, laundry, &c., will be placed to the extreme north of the site. The estimated cost of the buildings is 8,000*l.* The architects are Messrs. Macwhannell & Rogerson, and the contractors for the various works are as follows:—Mason-work, Alex. Stuart; joiner-work, James Macallan; plumber-work, James Raeside; slater-work, Burnett & White; plaster-work, Geo. Rome & Co.; painter-work, C. Carlton & Son; gasfitter-work, D. & G. Graham; tile-work, Kean & Wardrop; heating-work, James Cormack & Sons.

INFANTS' SCHOOL, BEESTON HILL, LEEDS.—A new infants' school, which has been added to the school buildings of St. Luke's parish, Beeston Hill, was opened on the 18th inst., by the Bishop of Ripon. Mr. W. S. Braithwaite was the architect. By the extension extra accommodation has been provided for about 250 children. There are four class-rooms, a small hall, and cloak-room. Advantage has been taken of the fall in the ground to build a large room, which will be fitted up as a gymnasium, and used by the young men attending the church. The cost has been 1,500*l.*

PUBLIC SCHOOL, GREENOCK. — The plans of Messrs. Boston, Menzies & Morton, Greenock, for the erection of Ardgowan Public School, have been selected by the School Board.

HOLIDAY HOME FOR CRIPPLED CHILDREN, SOUTHEND.—Princess Louise recently laid the foundation-stone of the Ragged School Union Holiday Home for Crippled Children, at Southchurch Beach. The new building is to cost about 3,000*l.* The architect is Mr. G. E. Holman.

NEW STALLS, MORPETH CHURCH.—New choir-stalls have been placed in this church, from the designs of Messrs. Boolds & Hardy, architects, of Morpeth. The work, which is in oak, has been executed by Messrs. Sopwith & Co.

WELLINGTON COURT MANSIONS, KNIGHTSBRIDGE.—We omitted to mention in our description of these buildings last week that the boilers and heaters were supplied by Messrs. W. G. Cannon & Sons, Southwark, and that the work in connexion with the speaking-tubes, electric-bells, hot-water supply and warming was done by them.

FOREIGN AND COLONIAL.

FRANCE.—The Corot Exhibition is open to-day (Saturday) at the Galliera Museum. It includes 120 works of the master.——At the galleries of MM. Boussod and Valadon there is an exhibition of fifty pastels by M. E. Cagniart, consisting of views of Paris.——The Minister of Public Works has decided on the opening of a competition on August 31, for the rebuilding of the Cour des Comptes. The programme will include the condition that the façades towards the Quay and towards the Rue de Lille are to be rebuilt as they existed before the fire in 1871. The ancient façades towards the Court are also to be rebuilt, but in other respects the competitors will have liberty to treat the building as they please.——There is talk of raising a monument to Chopin in the Parc Monçeau.——The Committee of the National and Colonial Exhibition at Rouen has given its award on the competition opened to landscape-architects ("architectes-paysagistes"), for the decoration of the gardens of the exhibition, which is to be opened next year. The first premium has been awarded to M. Darnetal, the second to M. Beaucantin.——M. Poussin, the architect, has completed the new "Maison de Repression," built from his plans at Montesson, and which is intended to replace the prison of Petite Roquette. The cost of the building, which was estimated at three million francs, has only amounted actually to two millions and a-half.——The municipality of Rouen intend to demolish the

chapel of the Lycée in that city, which is a curious monument of the Jesuit style of Renaissance, built by the Italian architects employed by Marie de Medici, after the plans of Bosio, in 1610.——The French Parliament has placed at the disposal of the Egyptian Government a sum of 500,000 francs for the erection of an "Ecole Française" at Cairo. The building is expected to be finished in the winter of 1897, and will be built near the proposed site of the future Egyptian museum.——The fine funeral monument, by Bartholomé, in the Champs de Mars Salon, is to be purchased by the Municipality of Paris, and to be executed in stone for the decoration of the Cemetery of Pére Lachaise.

GERMANY.—Of the numerous monuments to the late Emperor William, the one in course of erection at the junction of the Mosel with the Rhine promises to be very effective. The site is a triangular one, and the equestrian statue of the Emperor, which stands on a well-arranged pedestal, faces the apex. The statue is 13 mètres high, and stands about 25 mètres above the mean water-level. Herr Bruno Schmitz is the architect, and Herr E. Hundriesser is the sculptor. The design is the result of a competition.——Herr Hundriesser is also sculptor of the new statue, "Berolina," which is to be erected on the Alexanderplatz at Berlin. The casting of this statue has now been commenced.

MISCELLANEOUS.

LEEDS PAINTERS AND SCHOOL CLEANING.—The Leeds Building Trades Federation have adopted a resolution, says the *Leeds Mercury*, urging the School Board to adopt the suggestions offered by the employers and *employés* engaged in the painting trade of the city, believing that such a course will be beneficial to the health of the children attending the schools, and in the best interests of the ratepayers of the city. The suggestions are as follows:—(1) That the colour of the distemper on the walls be changed each time, so as to ensure the walls being properly washed; (2) that all work to be re-varnished shall be washed by painters; (3) that one member of the Master Painters' Association and one of the operatives be allowed to visit the schools during the cleaning, to examine the work being done; (4) that where there exists a doubt as to an employer paying the standard rate, his wage-books shall be examined; (5) that a number of the schools be done during the winter holidays.

PUBLIC IMPROVEMENTS AT NEW BRIGHTON, CHESHIRE.—A number of Manchester capitalists have formed a company with a capital of 20,000*l.* for purchasing the Gorsey Hill and Stoney Hey estates, comprising the loftiest eminence in the Wallasey district at New Brighton, which commands a magnificent view of the Rock Channel, the approaches to the Mersey and Dee, and the Snowdon and Carnarvonshire ranges. It is intended to erect a tower on the summit of the hill. The grounds will be laid out on the lines of Belle Vue at Manchester and the Douglas pavilions and pleasure-grounds, and provision is to be made for a football-ground, surounded by a racing and cycling track. The company has secured the services of Mr. Huon A. Matear, F.R.I.B.A., of Birkdale, to develop the undertaking.—*Liverpool Daily Post.*

"VARIABLE POWER" LIFTS.—The wording of the notice of the lifts at Wellington Court, in our last issue, rather conveyed the impression that the variable power in connexion with these lifts was a new feature introduced by the firm who supplied the lifts referred to. This would not be correct, as one other well-known firm, at least, has been making variable power lifts for some time back.

ARBITRATION AT CAMBRIDGE:— "BETTERMENT."—Mr. Arthur Harston, F.S.I. (Messrs. A. & C. Harston, surveyors), Leadenhall-street, City), the arbitrator appointed by the Local Government Board, has published his award in the case of Foster *v.* The Cambridge Corporation. The Arbitrator fixes at 120*l.* the compensation due to Mr. Foster in respect of the demolition of a building in Bank's-court, Little St. Mary's-lane, Cambridge, and the acquisition of the freehold site by the Corporation, and he further awards that the owners of the adjoining houses, Nos. 18 and 19, Little St. Mary's-lane, shall pay to the Corporation in equal moieties the sum of 28*l.* for the "betterment" of their property consequent on the pulling down of Mr. Foster's "obstructive" building. This case is of great interest, being the first arbitration under section 38, Part II., of the Housing of the Working Classes Act, 1890, under which the claimant's building was adjudged to be an "obstructive" building, which, in the words of the Act, is interpreted to be one which "stops ventilation, or otherwise makes or conduces to make other buildings" (in proximity or in contact therewith) "to be in a condition unfit for human habitation or dangerous or injurious to health; or prevents proper measures from being carried into effect for remedying any nuisance injurious to health or other evils complained of in respect of such other buildings." The adjacent buildings which were so obstructed are two old tenements in Little St. Mary's Lane, which let at 3s. 6d. per week, landlords paying rates; the owners of these have now, under the provisions of the Act above-mentioned, to pay for the compulsory betterment of their property by the removal of the obstructive building.—*Land Agents' Record.*

THE CITY COMMISSION OF SEWERS.—A meeting of the Commission of Sewers was held at the Guildhall on the 21st inst., when the question of the *personnel* of the Engineer's staff was finally settled after being many times debated, and being made the subject of numerous special reports during the past two years. After another long discussion, the report of the special committee appointed in November to consider the question was adopted on a division, Mr. H. E. Stacey, with twenty-one years' service, being appointed Chief Assistant, and Mr. J. G. Garthwaite, with eight and a-half years' service, Principal Draughtsman, each with salary increased to 300*l.* a year. A letter received from the Board of Trade, enclosing proposed regulations and conditions for securing the safety of the public, and for ensuring a proper and sufficient supply of electrical energy, was referred to the Streets Committee. The court was adjourned to Tuesday, June 11.

THE PROPOSED ALTERATION OF BUILDING REGULATIONS, PAISLEY.—Various builders have already shown their desire to take advantage of the proposed alterations of the building regulations at Paisley. At a meeting of the Burgh Police Commissioners on the 13th inst., it was decided by a majority that application should be made to the Sheriff for power to alter Article 12 of the Building Rules annexed to the Burgh Police (Scotland) Act, 1892, so that builders might be enabled to erect tenements with their mean and mutual gables a few inches less in thickness than the statute meantime admits of. At the Dean of Guild Court on the 15th inst. several plans were lodged in accordance with the proposed alterations: but as the Sheriff has not yet given his sanction to the change, the plans were continued.—*Glasgow Herald.*

SANITARY INSPECTORSHIP, AIRDRIE.—On the 16th inst. a special meeting of Airdrie Town Council was held to appoint a Sanitary Inspector, Burgh Surveyor, and Master of Works. The Council proceeded to vote upon a short leet of five applicants, with the result that Mr. Charles Brown, County Inspector, Airdrie district of Lanarkshire, was appointed.

INSTITUTION OF CIVIL ENGINEERS.—At the last ordinary meeting of the Session of this Institution, on the 21st inst., Mr. W. H. Preece, C.B., F.R.S. (Vice-President), in the chair, it was announced that seven Associate Members had been transferred to the class of Members, viz.:—William Henry Cole, Walter Edmund Cook, William Julius Mirrlees, B.Sc., James Smith Mollison, Oliver Claude Robson, Edward Brownfield Wain, and Alfred Edward White. At the same meeting it was reported that twenty-seven candidates had been admitted as Students, viz.:—Walter Lacy Allcroft, Taggart Aston, Charles Orr Campbell, Gaspard Robert de Mussenden Carey, Jesse Edward Chapman, Louis Whitfoot Clarke, William Harold Arthur Court, Alexander Gratitude Craig, B.Sc., Alfred Arthur Davis, Clement Frederick Davis, B.A., George Crosbie Dawson, Robert Manning Dowson, Haines Breebaart Ede, Arthur Grimshaw, John Inglis, B.Sc., James Gray Mathieson, Allan Macrae Moir, Harry Scott Morrison, John Leslie Mowbray, James Just Niven, Henry John Rofe, B.A., Leslie Roseveare, Charles William Scott, Benjamin Thomas Stubbs, John Taylor, Edward Lloyd Williams, and Hamilton Arnison Woods. The last ballot of the session resulted in the election of two honorary members, viz.: Octave Chanute, Chicago; and Henri Schneider, Le Creusot; of four members, viz.: Harry Victor Sampson Baker, P.W.D., India; Rawlinson Tennant Bayliss, Old Broad-street; George Humfress, P.W.D., India; and Emanuel Alois Ziffer, Vienna; and of thirty-eight Associate Members, viz.: Frank Joseph Agabeg, Sitarampore; William Banks, Rochester; Henry Kynaston Blake, Guildhall; Henry Lane Brown, Rhyl; Matthew Taylor Brown, B.Sc., Glasgow; Gerard Macleay Browne, Coolgardie; Robert Arthur Bruce, Bolton; Edmund Burrows, P.W.D., Cape Town; Frederic Edward Theodore Cobb, Geelong; Reginald Harratt Crompton, Stud. Inst. C.E., Transandine Railway; Henry Mangles Denham, L. and N. W. Railway; Arthur Montefiore Wire Easten, Johannesberg Railway; Herbert Francis Edwards, Cardiff; Harry Glen Finlaison, P.W.D., Egypt; James Forgie, Westminster; James Fraser, Railway Department, Sydney; William Willis Gale, East Grinstead; Bernard Godfrey, Stud. Inst. C.E., Droitwich; Louis Greene, Stud. Inst. C.E., Brighton; Joseph Hawksley, Portsmouth; Joseph Hope, P.W.D., Sydney; William Ingham, Plymouth; Edmund William Janson, M.A., Leadenhall Buildings; Charles William Jenkins, P.W.D., New South Wales; William Arthur Baird Laing, Edinburgh; William Robert Manning, Chelsea; Bianor Silvano de Mendonca, Rio de Janeiro; William James Milner, P.W.D., Sydney; Joseph Rushworth, Westminster; Joel Settle, Madeley, Staffs.; Joseph Shepherd, Leeds; Sophus Simmelkjær, Lothbury; Charles Edward Simpson, Beckton; Thomas William Loraine Spencer, P.W.D., New South Wales; Sidney Stallard, Stud. Inst. C.E., Maidstone, William George Walker, Westminster; Bertram Braund Waller, Eltham; and George Bliss Winter, Madras Railway.

WIRING FOR ELECTRIC LIGHT.—We have received a description by Mr. F. Bathurst, the agent for the Interior Conduit and Insulation Company, of New York, of this system of house-wiring. To many householders the great drawback to their adoption of the electric light is the wiring of their houses. If the house was wired for the electric light when it was being built, then as a rule the wood casings are put flush with the walls, and if the covers are neatly moulded and carefully put on, they need not be unsightly, as they can be painted or stained the same colour as the walls. If, however, the house has to be wired after it has been built, then the wood casing is put on the surface of the walls and ceiling, often without much regard to the appearance of the room. In this case systems like the "concentric system" and the "interior conduit system" give excellent results. The great advantage of the latter system is the ease with which the tubes can be laid throughout a building in the course of erection, similarly to the way in which gas-pipes and water-pipes are laid. Then, if at any subsequent time the electric light is wanted, the house can be wired easily and without any structural alterations. Mr. Bathurst explains the method of distribution on this system, of how the conduits are taken through floors and round corners, and the ease with which joints can be made. All the details of the system have been thoroughly thought out, and any intelligent gas-fitter or plumber would be able to joint the conduits and follow the design of the wiring without difficulty. As we have recently referred to the advantages of this system we need not recapitulate them here.

EDINBURGH WATER SCHEME.—Mr. Wilson, Engineer to the Edinburgh and District Water Trust, was, on the 16th inst., appointed Engineer of the new water scheme of the Corporation.

CAPITAL AND LABOUR.

THE LONDON BUILDING TRADE.—The dispute in the London building trade is once more assuming a serious aspect, consequent upon the determination of the men belonging to the various unions not to accept the appointment of an arbitrator to settle the question of the proposed new rules, and at the same time to insist upon the continued observance of the 1892 agreement. Letters officially announcing that decision have already been received by the Central Association of Master Builders from a number of societies. It is stated that if no *modus vivendi* can be arrived at before June 1 a strike or lock-out is imminent, and that the executive of the Building Trades Federation are preparing for such an event.

STATE OF EMPLOYMENT IN APRIL.—Employment in most of the industries, says the *Labour Gazette*, for which returns have been received, shows an improvement in April as compared with March. Owing, however, mainly to a falling off in mining, the percentage of unemployed in all the unions making returns remains unchanged. An improvement has taken place in the chief branches of the building trades. The percentage of unemployed in unions making returns has fallen from 4·9 to 3·3, compared with 2·8 in April, 1894. Twenty-eight fresh disputes have occurred in the Building Trades, twenty-three of which were chiefly due to wages questions, four to questions of working arrangements, and one to a question of unionism.

CARPENTERS' AND JOINERS' DEPUTATION.—In the House of Commons on the 17th inst., Mr. Broadhurst asked the Secretary of State for War whether he was in a position to reply to the questions relating to wages, piecework, and other matters, addressed to him by a deputation of carpenters and joiners on February 18. Mr. Woodall: The points brought before the Secretary of State's notice by the deputation referred to involve questions of a very complicated nature, which require, and are receiving, careful consideration. It is hoped that a decision may be announced in the course of a few weeks.

MEETINGS.

FRIDAY, MAY 24.

Architectural Association.—Mr. Walter Crane on "The Influence of Architectural Style upon Design." 7.30 p.m.

Glasgow Architectural Association.—Visit to Douglas.

SATURDAY, MAY 25.

St. Paul's Ecclesiological Society.—Visit to Bromley, &c. Trains leave St. Paul's Station at 2.40; Victoria, 2.42; and Cannon-street, 2.53.

London and Provincial Builders' Foremen's Association.—Monthly meeting, Memorial Hall, Farringdon-road, E.C. 7.30 p.m.

Northern Architectural Association.—Visit to Jarrow, &c.

Edinburgh Architectural Association.—Visit to (1) Floors Castle; (2) Kelso Abbey.

MONDAY, MAY 27.

Surveyors' Institution.—Annual General Meeting (1) to receive the report of the Council, and the announcement of the result of the election of officers for the ensuing year. (2) Presentation of prizes awarded to successful candidates, in connexion with the recent preliminary and professional examinations. 3 p.m.—Annual Dinner, Holborn Restaurant 6.30 p.m.

Society of Arts (Cantor Lectures).—Mr. Ernest Hart on "Japanese Art Industries." II. 8 p.m.

TUESDAY, MAY 28.

Society of Arts (Applied Art Section).—Prof. W. B Richmond, A.R.A., on "The Decoration of St. Paul's. 8 p.m.

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered.
*Public Baths and Washhouses	Shoreditch Baths and Library Comms.	125 . 75*l.* and 50*l.*	Sept. 1
*Public Library and Museum	do.	50*l.* 40*l.* and 30*l.*	do.

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
*Granite Setts and Channel	Camberwell Vestry	O. S. Brown	May 27
Additions to Workhouse	Belfast Union	Young & Mackenzie	May 28
Farm Buildings, Bessingley, Bridlington Quay, Yorks	A. Wright	J. Earnshaw	do.
*Surface Water Sewer	Tottenham U.D.C.	P. E. Murphy	do.
*Repair of Tar and Asphalte Paving	do.	do.	do.
Reservoir	Uckfield (Sussex) Water Co.		do.
Extension of Viaduct Tannery, Leeds		T. & C. B. Howdill	do.
Church Tower, St. Chad's, Tushington, near Whitchurch		C. H. Fowler	do.
*Workshops at Workhouse	Camberwell Guardians	R. P. Whellock	May 29
*Laying Sewers and Drains	Southend-on-Sea Corp.	H. Harlock	do.
Sewerage Works, Lewden, near Barnsley	Worsborough U.D.C.	J. Whitaker	do.
Shops, Market-terrace, Stafford-street	Longton Town Council	J. W. Wardle	do.
Cast-iron Gas Pipes	Nelson (Lancs.) T.C.	W. Foster	do.
Paving and Making-up Edith-road, &c.	Clacton U.D.C.	A. R. Robinson	do.
Vestry, &c. Horsforth, Leeds	Trustees of Methodist New Connexion Chapel		do.
Cottage on Dairy Farm, Hemsby Hall Estate, Great Yarmouth		A. S. Hewitt	do.
Waterworks, Elfhill, Stonehaven, N.B.		Jas. Stevenson	do.
Sixty-six Houses, Aberdare, Mon.		T. Roderick	do.
Workshops at Gasworks	Rochdale Corporation	*Official*	do.
Rebuilding Bridge, Frensham Mill	Farnham R.D.C.	do.	do.
Additions, &c. to Cheverell, Landaff	A. B. Bassett	J. W. Rodger	May 30
*Tooled York Paving	Mile End Old Town Vestry	J. M. Knight	do.
Laundry, Wilbert-lane, Beverley, Yorks	Beverley & East Riding Laundry Co. Lim.	A. Beaumont	do.
Sewerage Works	Hartlepool Corp.	H. G. Crummach	do.
Villa, Lane Ends, near Sowerby Bridge, Yorks		Petty & Ives	do.
Reservoir (1,000,000 galls.), Parc Gwylit, near Bridgend		Giles, Gough, & Trollope	do.
*Two Houses at Chiswick			do.
*Foundation, &c. Works at Rugby	Willans & Robinson, Lim.	*Official*	do.
Building, Gilfach Farm, Norton, Presteign, Radnorshire	W. Green-Price		May 31
Four Jetties, &c. Runcorn	Manchester Ship Canal		do.
Waterworks, Coalburn	Lanark County Council	Jas. Kerr	do.
*Portland Cement	Borough of Brighton	F. J. C May	do.
Shed, Moorland Mills, Cleckheaton	S. Law & Sons, Lim.	W. H. Howorth	do.
Nineteen Houses, Blaenllecha, Ferndale, Glam.		T. R. Phillips	do.
Additions to Three Shops, Stanningley, Leeds		H. Hodgson	do.
Chapel and School, Royston, near Barnsley		G. Moxon	do.
*Excavating Trench and Laying Suction Pipe	Epsom U.D.C.	G. & F. W. Hodson	do.
Widening Road, Quaker's-yard	Glamorgan C.C.	*Official*	do.
Board Room, &c. at Workhouse	Bootle (Cumberland) Union	do	June 1
Street Works, Philip-street	Hoole U.D.C.	C. A. Ewing	do.
School, Hollybush, Mon.	Bedwellty School Board	W. L. Griffiths	do.
Improvements to Church, Dungloe, Ireland	Rev. H. Gallagher	E. J. Toye	do.
Alterations, &c. to Schools, Fritton, Great Yarmouth		Bottle & Olley	do.
Additions to Schools, Castle Hill, Hindley, near Wigan		H. Walls & Son	do.
*Lamp Pillars and Market Posts	Brighton Town Council	F. J. C. May	do.

CONTRACTS—*Continued.*

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
Water and Drainage Works, Cuiter	Aberdeen Dist. Com.	J. D. Watson	June 3
*House in Infirmary Grounds	Croydon Union	F. West	do.
Rebuilding Sea-wall, Town Quay	Truro Town Council	*Official*	do.
*Broken Guernsey Granite	Middlesex C.C.	do.	June 4
Glazed Pipe Sewers, Standish Lower Ground	Standish-with-Langtree U.D.C.	Heaton & Ralph	do.
Reconstruction of Effingham-street	Bootle (Lancs.) Corp.	J. A. Crowther	do.
Reconstructing Pier, Additions, &c.	Beaumaris Corp.	Mayoh & Haley	do.
Three Houses, Cressey-street, Grimsby	David Pick		do.
*Sewer Works	Leyton U.D.C.	W. Dawson	do.
*Painting Works, &c. Infirmary	Chelsea Guardians	Lansdell & Harrison	do.
*Wood Paving Blocks	Bermondsey Vestry	F. Sumner	June 5
Kerbing, Channelling, &c.	Folkestone Corp.	J. White	do.
School, Burgess-street, Leominster	Trs. of Wesleyan Chapel	E. G. Davies	do.
Flint Road Metal (1,000 tons)	Burgess Hill (Sussex) U.D.C.	*Official*	do.
*Alterations to Old Post Office, Birmingham	Coms. of H. M Works	do.	June 6
*Sewer Works	Acton U.D.C.	do.	do.
Whinstone (3,000 tons)	Bridlington R.D.C.	do.	June 7
Additions to Schools, Venere, Wrexham	Broughton School Bd.	J. E. Lash	do.
Vagrant Wards, &c. at Workhouse, Crossland Moor, Huddersfield	Barking Town U.D.C.	J. Kirk & Sons	do.
*Broken Granite and Flints	Newburn-on-Tyne U.D.C.	C. J. Dawson	do.
Sewerage Works		H. W. Taylor	June 8
Additions to Schools, Ford-street, Coventry	Mansfield Burial Bd.	H. W. Chattaway	do.
*Additions to Cemetery, &c.	Killarney T. Comms.	R. F. Vallance	June 10
Pipe Sewers (3,386 yards)	Gt. Western Railway	*Official*	do.
*Alterations to Warehouse, Smithfield	Eton Union	do.	June 11
*Yellow Deals and Batten Ends	Coms. of H. M. Works	do.	do.
*Postman's Sorting Office, North Finchley		do.	do.
*Five Dwelling Houses, Watch House, &c. &c. Calshot Castle	Admiralty	do.	do.
Sewer	Ulverston R.D.C.	J. Greenwood	do.
Hospital, Morton Banks	Keighley, &c. Joint Hospital Board	Judson & Moore	June 12
Schools	Harwich School Board	J. W. Start	June 13
Cast-iron Socket Pipes	Aberdare Town Coun.	W. Fox	do.
Villa, Amersham, Bucks	J. Sladen	G. Luckett	June 15
*Sewage Works, &c. &c.	Portishead U.D.C.	T. J. Moss Flower	June 17
*Sewerage Works, Borstal	Rochester Corp.	Taylor Sons & Santo Crimp	June 18
*Road Materials	do.	W. Banks	do
*Making-up Roads	do.	do.	do.
*Waterworks, Water Mains	Bilston U.D.C.	B. Latham	do.
*Recreation and Gymnasium Hall, Mayford	London County Council	*Official*	do.
*Repairs and Materials, Gosport	War Department	do.	June 19
*Erection of Block of Buildings	West Ham School Bd.	Newman & Jaques	June 25
*Pulling Down and Rebuilding Premises, Salisbury	Main & Sons	F. Bath	No date
Additions to Residence, Greenside, Kendal	T. Greenwood	J. Hutton	do.
Additions, &c. to Punch Bowl Inn, Lina Laithe, Earby, Lancs.	J. Kenyon	C. Parsons	do.
Schools	Chilwell (Notts.) Sch. Bd	F. Ball	do.
Whinstone Road Metal, near Hull	Sculcoates R.D.C.	A. Greaves	do.
Schools, Pattishall, Northampton		M. H. Holding	do.
Twelve Houses, Bloomdale-street, Connswater, Belfast		H. Sykes	do.
Three Villas, Kingstown, co. Dublin		G. L. O'Connor	do.
Two Houses, Roundhay, Leeds		P. Robinson	do.
*Keeping Estate in Repair			do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.
*Main Roads District Surveyor	Essex County Council	3*l.*	May 30
*Outdoor Assistant	Willesden U.D.C.	2*l.* 15*s.*	May 31
*Inspector of Drainage Works	Rotherhithe Vestry	2*l.* 5*s.*	June 5
*Clerk of Works	do.	3*l.* 10*s.*	do.
*Clerk of Works	Rochester Corp.	2*l.* 10*s.*	June 18

Those marked with an asterisk (*) are advertised in this Number. *Competitions*, *p.* iv. *Contracts*, *pp.* iv., vi., viii., *and* ix. *Public Appointments*, *pp.* xviii. *and* xxi.

Institution of Civil Engineers (*in the Theatre of the Royal United Service Institute, Whitehall*).—Annual General Meeting of Corporate Members only, to receive the Report of the Council, and to elect the Council and Auditors for the ensuing year. 8 p.m.

WEDNESDAY, MAY 29.

Carpenters' Hall, London Wall (*Lectures for Shop and Outdoor Foremen*).—Mr. F. R. Farrow on "Strengths and Strains in Wood." 8 p.m.

Edinburgh Architectural Association.—Valedictory address by the President, Mr. W. W. Robertson, F.S.A. (Scot.). 8 p.m.

THURSDAY, MAY 30.

Society for the Encouragement of the Fine Arts.—Mr. J. Starkie Gardner on "Ironwork—the Grand Period." 8 p.m.

Society of Antiquaries.—8.30 p.m.

FRIDAY, MAY 31.

Architectural Association.—Annual Dinner, Holborn Restaurant. 7 p.m.

Sanitary Inspectors' Association.—Visit to Worthing.

SATURDAY, JUNE 1.

Sanitary Inspectors' Association.—Visit to Worthing (concluded).

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

6,967.—WINDOWS: *J. Ehrcke.*—This invention relates to the air-tight closing of sliding windows. A closing device having bevelled shoulders and a bar with corresponding recesses is arranged in the side-frame of the window. By means of a short handle which acts as a lever, an eccentric operates the bar and forces the closing device against the sashes so as to tightly close the window. A wire gauze blind is wound on a roller situated in the upper part of the window-sash, and adapted to be unwound as the upper sash is lowered.

9,435.—VENTILATORS: *V. Knowles.*—A ventilator for conveying air beneath ground-floors, &c., is made of fire-clay, or other suitable material, the two ends being straight and parallel, with a diagonal part connecting them. The ventilator is hollow throughout, but may be fitted with internal projections for allowing air to pass in or out according to their direction.

9,655.—WHITE LEAD: *J. MacArthur.*—Deals with a process for making white lead, in which lead oxide is dissolved in a solution of tartrate of soda, and is subsequently treated with carbonic acid, during which the liquid is maintained at a boiling temperature.

11,539.—PRESSING BRICKS: *T. Fawcett.*—In machines for pressing bricks a means of prolonging the pressure upon a brick. A lever, having its fulcrum under the packing-block situated under the bottom die, has its opposite end weighted for the purpose of giving the block and die an upward tendency, thus, when the upper die has descended to press the brick and commences to return, the weighted lever continues the pressure by causing the lower die to follow it.

3,655.—DOOR-FASTENER: *J. Holmes.*—An improved wedge for the bottom of doors. Consists of an ordinary wooden wedge, having near the thick end a metal plate attached with a serrated edge to engage slightly with the floor of the room.

4,491.—APPARATUS FOR BURNING MATERIALS: *J. Navarro.*—Relates chiefly to methods of obtaining the carbonic acid gas, which is given off when burning natural cement-making materials, and also novel means of burning same. A horizontal chamber, having suitable charging and discharging openings, is employed, in combination with a cylindrical retort fixed on a hollow axle, to which is given a slow rotary motion. Suitable means are employed for heating the retort externally, and purifiers for purifying the gas are used.

4,653.—WINDOWS: *J. Bartlett.*—For regulating and controlling the vertical movement of window-sashes; a plate of brass is screwed to the inner face of the sash stile, and a screw plug for screwing into the plate is attached to the sash by a light chain. The point of attachment to the sash is governed by the extent of opening required for ventilation, the plug coming in contact with the meeting rail of the sash above or below the one to which it is attached.

5,008.—TILES: *T. Stubbs.*—Relates to methods of decorating the surfaces of tiles, &c. The tiles are taken whilst in a biscuit or "glost" state and dipped in a solution of plain slip, and when dry are covered with a suitable colour. A stencil is afterwards placed over the face of the tile, and such portions as are unnecessary for the pattern are removed with a suitable brush.

NEW APPLICATIONS FOR LETTERS PATENT.

MAY 6.—8,941, T. Brazil Gates.—8,986, W. Vickery, Triple Lever Mitre Cramp.

MAY 7.—9,008, S. Johnson, Plane Iron Protector. 9,013, J. Howard, Tools for Making Frames.—9,070, J. Mœller, Incandescence Gas Burners.—9,077, E. Barrachin, junior, Facilitating the Construction of Brick Arches for Floors, &c.

MAY 8.—9,109, H. Doulton, Tread for Steps of Flights of Stairs.—9,129, R. Leggott, Securing Sash-Pocket Pieces.—9,135, J. Phillips, Window-Fastener.—9,165, J. Bellingham and F. Whittall Wood Screws.—9,170, J. Kalix, Floor for Baking-Ovens.

MAY 9.—9,194, C. Garnett, Automatically Recording or Checking Workmen's Time.—9,212, J. Anthon, Band-Saw Machines.—9,241, Ames Crosta & Co., Limited, and R. Ames, Manufacturing Drains and other Pipes for Plastic Material.—9,252, S. Smith, Window Frames and Sashes.

MAY 10.—9,283, W. Metcalfe and F. Wrightson, Artificial Stone.—9,288, S. Morgan, Windows.—9,290, L. Sheard, Board and Trestle Combination for Use of Paperhangers, &c.

MAY 11.—9,330, R. Evered and N. Coleman, Flushing Cisterns.—9,340, A. Brookes, Securing Door Knobs or Handles on their Spindles.

PROVISIONAL SPECIFICATIONS ACCEPTED.

6,686.—C. Bristow, Surveyors' roadside ruler.—7,382, W. Murchland, Water-closets.—7,412, S. Snape and J. Galloway, Siphon-Discharge Cisterns for Water-closets.—7,480, G. West, Fire-stoves, &c.—7,550, J. Mackintosh, Window Attachments.—7,578, W. Neal, Drain-pipes, &c.—7,689, C. Breach, Drain Junction and Sockets for connecting Drains with existing Sewers.—8,227, W. Blunden, Window-Sash Fastener.—8,365, H. Sturm, Light and Economical Building Construction.—8,402, G. Dawnay, Tiles.

COMPLETE SPECIFICATIONS ACCEPTED.

(*Open to Opposition for Two Months.*)

13,181, G. Brindley and others, Siphon-Cisterns and Water Waste Preventers.—5,813, H. Bladen and others, Girders.—7,276, A. Boult, Upholstery Work.—7,401, M. Lander, Grates and Stoves.

PRICES CURRENT OF MATERIALS.

TIMBER.		
Greenheart, B.G.	ton	8/0/0 0/0/0
Teak, E.I.	load	10/0/0 16/0/0
Sequoia, U.S. ft. cu		1/10 2/2
Ash, Canada load		2/10/0 3/15/0
Birch, do.		2/10/0 3/15/0
Elm, do.		3/5/0 4/10/0
Fir, Dantsic, &c.		1/15/0 3/10/0
Oak, do.		2/15/0 4/15/0
Canada		5/15/0 7/5/0
Pine, Canada red		0/0/0 0/0/0
Do. Yellow		3/0/0 5/5/0
Lath, Dantsic, fath		4/10/0 5/10/0
St. Petersburg		5/0/0 6/10/0
Wainscot, Riga, &c., log		3/0/0 5/5/0
Odessa, crown		3/0/0 5/5/0
Deals, Finland 2nd & 1st std 100		7/0/0 8/10/0
Do. 4th & 3rd		7/0/0 8/0/0
Do. Riga		7/0/0 8/0/0
St. Petersburg, 1st yellow		9/10/0 12/0/0
Do. 2nd yellow		7/10/0 9/0/0
Do. white		8/0/0 9/10/0
Swedish		7/0/0 15/10/0
White Sea		7/10/0 15/0/0
Canada, Pine 1st		22/0/0 24/0/0
Do. do. 2nd		16/10/0 17/10/0
Do. do. 3rd, &c.		8/5/0 10/10/0
Do. Spruce, 1st		8/10/0 10/0/0
Do. do. 3rd and 2nd		6/10/0 7/5/0
New Brunswick		6/0/0 7/0/0
Battens, all kinds		5/0/0 21/0/0
Flooring boards, sq., 1 in. prep, 1st		0/9/0 0/14/0
Do. 2nd		0/6/6 0/11/0
Other qualities—		0/4/6 0/7/0
Cedar, Cuba ft.		/3 /4
Honduras, &c.		/3 /4½
Mahogany, Cuba St. Domingo, cargo av.		/3½ 1/0
Mexican do. do.		/3 /4
Tobasco do. do.		/3½ /6
Honduras do.		/3½ /5½
Box, Turkey ton		4/0/0 15/0/0
Rose, Rio		7/0/0 16/0/0
Bahia		6/0/0 15/0/0
Satin, St. Domingo		0/0/5 0/1/0

TIMBER (*continued*).		
Satin, Porto Rico		0/0/6 0/1/6
Walnut, Italian		0/0/3½ 0/0/7
METALS.		
Iron—Pig, in Scotland	ton	2/3/3 0/0/0
Bar, Welsh, in London		5/12/6 5/15/0
Do. do. at works in Wales		5/2/6 5/5/0
Do. Staffordshire, in London		6/0/0 6/10/0
COPPER—British cake and ingot		46/0/0 46/10/0
Best selected		47/5/0 47/15/0
Sheets, strong		53/0/0 0/0/0
Chili bars		43/0/0 43/5/0
YELLOW METAL	lb	0/0/4½ 0/0/4¾
LEAD—Pig, Spanish	ton	10/5/0 0/0/0
English com. brands		10/6/3 10/7/6
Sheet, English, 6 lbs. per sq. ft. and upwards		11/15/0 0/0/0
Pipe		12/5/0 0/0/0
ZINC—English sheet	ton	18/10/0 0/0/0
Vieille Montagne		19/0/0 0/0/0
TIN—Straits		66/2/6 66/12/6
Australian		66/17/6 67/7/6
English Ingots		69/10/0 70/0/0
Banca		67/0/0 67/10/0
Billiton		67/0/0 67/10/0
OILS.		
Linseed	ton	20/2/6 22/10/0
Cocoanut, Cochin		24/10/0 0/0/0
Do. Ceylon		22/15/0 0/0/0
Palm, Lagos		22/10/0 0/0/0
Rapeseed, English pale		22/10/0 0/0/0
Do. brown		21/0/0 0/0/0
Cottonseed ref.		17/15/0 18/10/0
Oleine		20/10/0 21/10/0
Lubricating, U.S.		4/0/0 5/0/0
Do. refined		5/0/0 12/0/0
TAR—Stockholm barrel		1/1/0 1/1/6
Archangel		0/15/6 0/0/0

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays.*]

ACCRINGTON.—Accepted for the execution of street works within the Borough, for the Corporation. Mr. W. J. Newton, C.E., Town Hall, Accrington:—
William Hindle Bury, Union-road, Oswaldtwistle, Schedule of Prices, two streets.
G. Cunliffe & Son, Water-street, Accrington, Schedule of Prices, three streets.

BAILDON (Yorks.).—Accepted for the erection of residence for Dr. Macvie. Messrs. Fairbank & Wall, architects, 3, Manor-square-Otley. Quantities by the architects:—
Masonry—Taylor & Ellis, Baildon, near Shipley, Yorks* £795 10
Joinery—John Robinson & Co., Baildon, near Shipley, Yorks 399 10
Plumbing—R. D. Taylor, Shipley, Yorks 149 8
Plastering—Jas. Wilks & Son, Baildon, near Shipley 85 15
Slating—Jas. Smithies, Great Horton, Bradford 92 15
Painting—A. Marshall, Shipley 25 10
* Exclusive of boundary walls.

BASFORD (Notts.).—For the erection of a laundry at the Workhouse, for the Union Guardians. Mr. H. Walker, architect, Newcastle-chambers, Nottingham. Quantities by architect:—

G. Hopewell & Sons	£2,332	5	10
J. Dove	2,210	0	0
Dennet & Williamson	2,163	0	0
J. Attenborow	2,068	0	0
W. E. Shaw	2,050	0	0
J. H. Vickers	2,035	17	2

* Accepted.

J. F. Price	£2,025	0	0
Hodson & Son	2,025	0	0
H. Vickers	1,980	0	0
J. Shaw, Sherwood Rise, Nottingham*	1,940	0	0
W. Pinkett †	1,709	0	0

† Withdrawn.

BECCLES (Suffolk).—For the erection of business premises, &c., for the Working Men's Co-operative Association, Limited:—

Hindes	£2,490
Hawes	2,090
Youngs & Sons, Norwich (accepted)	2,063

BECKENHAM (Kent).—For repairs, &c., to "The George" Inn, Beckenham, for Nalder & Collyer's Brewery Co., Ltd., Croydon. Mr. Robert M. Chart, architect and surveyor, Union Bank Chambers, Croydon, and Vestry Hall, Mitcham:—

Clark & Son	£375	E. Goulder	£268
Taylor & Son	327		

BOURNEMOUTH. — For alterations and additions to the Congregational Church, Pokesdown. Messrs. Lawson & Donkin, architects and surveyors, Yelverton Chambers, Bournemouth. Quantities supplied:—

G. Baker	£1,093	McWilliam & Son	£1,010
H. Smith	1,050	Entwisle & Cox	1,000
George & Harding	1,023	Jenkins & Sons	986
Wm. Hoare	1,013	F. Elcock, Bournemouth*	895

* Accepted.

BRIGHTON.—For the construction of engine- and boiler-house, Patcham, for the Corporation:—
Kirk & Randall £2,942
J. Parsons & Sons, Hove, Brighton (accepted) 2,897

BRISTOL.—For the erection of banking premises, Corn-street, for the Wilts and Dorset Banking Company, Limited. Mr. G. M. Lilley, architect, 17, Craven-street, W.C. Quantities by Mr. F. M. Puskey, 10, John-street, Adelphi, W.C.:—

R. B. Mullings	£12,300	E. Walters	£10,690
J. E. Davis	11,598	Jones & Co.	10,600
Stephens, Bastow & Co.	11,198	H. A. Forse	10,500
W. Church	10,978	Hatherley & Carr	10,345
G. H. Williams	10,775	Hayward & Wooster	10,189
Geo. Humphreys	10,743	W. Cowlin & Son	9,873
M. Durnford	10,689	C. A. Hayes	9,207
Love & Waite	10,623		

BRISTOL.—For additions and alterations to cocoa factory, St. Paul's, Bristol, for Messrs. Packer & Co. Mr. Fred. Shove, architect, St. Stephen-street, Bristol:—

	Amount.	Time.
H. A. Forse	£1,469	4 months.
G. Perkins	1,269	5 ,,
Hatherley & Carr (accepted)	1,185	2 ,,
E. Love	1,177	3 ,,
C. A. Hayes	1,165	4 ,,

CARDIFF.—For bottling stores, extension to brewery, and electric lighting, County Brewery, Cardiff, for Messrs. William Hancock & Co., Limited. Messrs. J. P. Jones, Richards & Budgen, and Charles C. Jones, joint architects:—

Stephens, Bastow, & Co., Ltd.	£13,250	James Allan	£12,947
Knox & Wells	13,105	Lattey & Company	12,898
Henry Davies	12,987	E. Turner & Sons, Cardiff*	12,748
		A. Berridge	12,458

* Accepted.

CARDIFF.—For the erection of a pair of semi-detached cottages, Peterstone-super-Ely. Mr. E. J. Williams, architect, 14, High-street, Cardiff. Quantities by architect:—

D. C. Jones & Carr †	£598	C. H. Cooksley	£432
Hatherley & Co.	558	Frederick Darke	429
D. Gorman	460	Benjamin Evans	420
Henry Morgan	433	D. Powell & Son, Cardiff*	403 14

* Accepted subject to certain reductions.
† Broseley tiled roof.

CAVERSHAM (Oxon).—For the execution of drainage works for the Urban District Council. Mr. Nicholson Lailey, engineer, 16, Great George-street, Westminster, S.W.:—

Wilkinson Bros.	£30,692	Osenton	£26,757
Dickson	27,500	Jackson	24,750
W. Cunliffe	27,343	H. Hill, Maidenhead*	23,676 10
Peattie	27,000		

* Accepted subject to the approval of the Engineer.

CHAPEL-EN-LE-FRITH (Derbyshire).—For the construction of 3¼ miles drainage works (Contract No. 1), for the Rural District Council. Messrs. Stirling & Swann, Engineers, Town-hall, Chapel-en-le-Frith:—

Owen Roberts	£5,460	8	8
E. Tempest	5,402	1	8
A. Kellett	4,402	14	1
G. Taylor	3,932	15	0
T. A. Matthews	3,617	16	9
J. D. Nowell	3,583	15	9

* Accepted.

J. Salt	£3,567	12	6
E. J. Ashwell	3,527	0	0
Chas. Baker & Sons	3,439	18	11
James Nuttall	3,333	3	11
Etheridge & Clark, Manchester*	3,177	17	6

CLECKHEATON (Yorks.).—Accepted for the construction of sewerage works (Contract No. 2), for the Urban District Council. Mr. J. C. Haller, C.E., Council Offices, Thornhill, Dewsbury:—
Neale & Birds, Morley £2,556 8 8

CORTON (near Lowestoft).—For new church schools, Corton. Messrs. Bottle & Olley, architects, 5, Queen-street, Great Yarmouth. Quantities by architects:—

E. Sewell	£1,471	F. W. Bray	£1,276
Allerton & Earl	1,445	F. Grimble	1,244
G. Beckett	1,365	G. E. Hawes, Norwich*	1,240
J. Ward	1,355		

* Accepted.

CROYDON.—For the conversion of Nos. 48 and 50, George-street, into shops, and building a new house and shop adjoining the same, for Mr. C. Evans. Mr. Robert M. Chart, architect and surveyor, Union Bank Chambers, Croydon, and Vestry Hall, Mitcham:—

J. Horrocks	£2,910	E. J. Burnand	£2,475
S. Page	2,859	Hanscomb & Smith	2,170
J. Burges	2,590	F. R. Hubbard, Croydon*	1,921

* Accepted.

DROMARA (Co. Down).—For the erection of school residence teacher's residence, for the Board of Public Works, Dublin:—

W. H. Burns	£564	Henry Gamble, Dromara*	£249
J. A. McIlroy	253		

* Accepted.

EDGWARE (Middlesex).—For the erection of school buildings, &c., for the School Board. Mr. R. W. Cribb, architect, Edgware. Quantities by Mr. C. R. Hancock, 47, Old Broad-street:—

H. Haynes	£3,850	Batley & Holmes	£3,359
McCormick & Sons	3,787	F. Dupont	3,350
G. Godson & Sons	3,716	Gough & Co., Hampstead (accepted)	3,164
J. Anley	3,635		

ENNISKERRY (Ireland).—Accepted for rebuilding the "Powerscourt Arms" Hotel. Mr. Cecil Orr, architect, 186, Great Brunswick-street, Dublin:—
Messrs. Sutton & Doyle, Enniskerry £1,083 18 10

FRAMLINGHAM (Suffolk).—For the execution of sewerage works, for the Plomesgate Rural District Council. Mr. Thos. Miller, C.E., 9, Thoroughfare, Ipswich:—

Jas. Dickson	£3,253	14	9
F. Bennett	2,520	0	0
Solden Hipwell	2,395	10	0
Girling & Coe	2,390	0	0

Geo. Double	£2,364	9	11
W. E. French & Co.	2,344	0	0
Hy. Hill, Maidenhead (accepted)	2,201	17	0

GREAT DRIFFIELD (Yorks.).—Accepted for the supply of 1,200 tons unbroken whinstone, for the Urban District Council:—

	Per Ton. s.	d.	
Lunedale Whinstone Co., 8, Feversham-terrace, York	8	5	600 tons.
Ord & Maddison, Darlington	8	5	600 tons.

HANWELL.—For additions to the Hanwell National Schools, for the Managers. Mr. Wm. Pywell, architect:—

H. S. Lee	£1,415	A. & B. Hanson	£1,347
W. Brown	1,385	T. Nye	1,341
Brown & Son	1,378	A. Jamieson (accepted)	1,340
Dorey & Co.	1,375		

HERNE BAY.—For the erection of a small summer residence for Mr. Joseph Odell. Messrs. Clark & Hutchinson, architects, 28, John-street, Bedford Row, W.C. Quantities supplied:—

G. H. Denne & Son	£1,188	T. Cornelius	£1,096
W. & T. Denne	1,140	A. S. Ingleton	987
E. T. J. Adams	1,120		

KING'S LYNN.—For the erection of Wesleyan Chapel, Gooderston, for Trustees. Mr. John Hillam, architect, Windsor-road, Lynn. Quantities by architect:—
Collins & Barber, Downham £561 10

LEEDS.—Accepted for the erection of residence, stabling, &c., Hill Foot, Pudsey, for Mr. A. Womersley. Mr. W. Carby Hall, architect, Prudential-buildings, Park-row, Leeds. Quantities by architect:—

Bricklaying and Masonry.—J. & J. E. Dawson, Pudsey	£747	15	0
Carpentry and Joinery.—John Trickett & Son, Bramley	428	10	0
Plumbing and Glazing.—W. Briggs, Leeds	92	6	9
Plastering.—W. Shaw, Pudsey	77	15	0
Slating.—F. Thompson, Stanningley	84	10	0
Painting.—A. W. Pratt, Calverley	16	14	10
	£1,447	11	7

LEEDS.—Accepted for the erection of three proposed residences at Roundhay, Leeds, for Sir John Barran, Bart., M.P. Mr. W. Carby Hall, architect, Prudential-buildings, Park-row, Leeds. Quantities by architect:—

Bricklaying and Masonry.—Thompson & Sons	£3,041	0	0
Carpentry and Joinery.—T. Benton	1,686	0	0
Plumbing and Glazing.—J. Lindley	438	9	2
Plastering.—T. Moore	382	0	0
Painting.—W. Taylor	69	10	0
Tiling.—Watson & Worsnop	380	0	0
Total	£5,996	19	2

[All of Leeds.]

LONDON.—For redecorations, &c., to the old "Pack Horse" public-house, for Messrs. Fuller & Co., Griffin Brewery, Chiswick. Mr. J. Hume, architect and surveyor, Chiswick:—

Baker	£170	17	
Adamson	170	0	
Hunt	155	0	
C. Rogers	£145	0	
L. Leeder & Co.*	138	10	

* Accepted.

LONDON.—Accepted for new conservatory and additions to Warden Lodge, Oxford-road, Chiswick, for Mr. A. W. Hutton. Mr. J. Hume, architect and surveyor, Chiswick:—
D. D. Heath £200

LONDON.—For new shop fronts to Nos. 147 and 149, King-street, Hammersmith, for Mr. E. Evans. Mr. J. Hume, architect and surveyor, Chiswick:—

Speckley	£147	0	
Line & Smith	112	10	
C. Rogers	£110	0	

New Show-rooms.

Vaughan	£240	0	
C. Rogers (accepted)	193	10	
T. Bendon	£190	0	

LONDON.—For alterations and decorations to the "Crown and Sceptre" public-house, Melina-road, Hammersmith, for Mr. John Hopkins. Mr. J. Hume, architect and surveyor, Chiswick:—

Drake	£377	0	
Baker	360	10	
Speachley & Smith	355	0	
C. Rogers	£355	0	
Pope & Co.	298	0	
C. W. Knight (accepted)	274	10	

LONDON.—For repairing, cleaning, painting, &c., of the buildings of the Cleveland-street Sick Asylum, for the Managers of the Central London Sick Asylum District. Mr. S. Cross, architect:—

	Main Specification.	Specification No. 2.
Barber & Bellamy	£2,696	£314 4
J. Smith	2,262	288 10
Mills	2,069	232 0
Wright	1,973	341 0
J. & H. Bangs	1,845	157 15
W. Knight	1,745	199 0
Batchelor	1,690	228 0
Neal	1,673	237 10
H. Wall	1,660	257 0
Marchant & Hirst	1,647	212 0
Knight & Son	1,451	240 9
Dorrell & Co.	1,371	235 0

LONDON.—For painting exterior, &c., of Princes-road Board School for the School Board for London. Mr. T. Bailey, Architect:—

Yerbury & Son	£250	0	
Chinchin	194	10	
Callow	186	0	
Vernall & Danes	184	0	
G. Neal	182	0	
Clifton	£180	0	
Marchant & Hirst	153	0	
T. Cruyws	150	0	
Graham & Graham	150	0	
Chappell	93	10	

LONDON.—For alterations and decorations at No. 4, St. Albans Villas, Highgate-road, N.W., for Mr. E. A. Atkinson. Mr. G. Gordon Stannam, architect, 10cb, Queen Victoria-street, E.C.:—

Kerry	£350
John Appleby, Cornwall-road, S.E. (accepted)	332

LONDON.—For a covered stand, dressing-rooms, &c., in Palliser-road, West Kensington, W., for the Queen's Club, Limited. Mr. Alexander Payne, architect, Norfolk House, Victoria Embankment, W.C.:—

Preliminary works.

G. H. & A. Bywaters & Sons	£1,456	0	
Thomas Boyce	1,421	0	
William Longmire & Co.	1,237	0	
Hall, Beddall, & Co.	1,220	0	
John Allen & Sons	1,186	0	
Higgs & Hill	1,184	0	
Robert Yerbury & Sons	1,165	0	
Patman & Fotheringham	1,112	0	
Thomas Bendon	£1,096	12	
William Johnson & Co., Ltd.	1,075	0	
John Mowlem & Co.	1,018	0	
Perry & Co.	1,000	0	
Alfred Bush & Sons	997	0	
Thomas Gregory & Co.	937	0	
Holloway Bros.*	930	0	

* Accepted.

LONDON.—For the erection of mortuaries, &c., St. Marychurch-street, for the Rotherhithe Vestry. Mr. Norman Scorgie, surveyor, Lower-road, Rotherhithe. Quantities by surveyor:—

Hy. Knight & Son	£1,219	8	10
R. E. Williams & Sons	1,146	0	0
A. White & Co.	1,077	0	0
J. Bullers	1,137	0	0
Saml. Chafen	1,123	0	0
Balsam Bros.	£1,110	0	0
Wm. Pavey	1,073	9	0
T. White & Son, Fairfield-road, Bow (accepted)	998	0	0

LONDON. — For the extension of "Kettner's" Restaurant, Church-street, Soho, W., to Greek-street, for Mr. G. Sangiorgi (Contract No. 2). Messrs. Jno. Waldram & Son, surveyors, 17, Buckingham-street, Charing Cross, W.C. Quantities supplied:—

Barker & Co.	£2,343	Nicholson	£1,985
Lansdown & Co.	2,097	Holloway	£1,980
Longmire & Co.	2,096	W. Johnson & Co., Ltd., Wandsworth Common*	1,955
Grover & Son	2,035		

* Accepted.
[Surveyor's estimate, £1,974.]

LONDON.—For re-instating damage done by fire at 17, New Park-street, S.E., for the Trustees of the late Moss Isaacs. Messrs. Jno. Waldram & Son, surveyors, 17, Buckingham-street, Charing Cross, W.C. Quantities supplied:—

Chapman	£835	Johnson, Ltd.	£705
Grover & Son	735	C. P. Roberts	700
Silk & Son	720		

[Surveyor's estimate, £695.]

LONDON.—For drainage and sanitary work at the "Rectory, Clapham, for the Rev. C. P. Greene, rector. Under the superintendence of Mr. Frederick Colyer, M.Inst.C.E., 28, Great George-street, Westminster, S.W.:—

G. Jennings	£395	F. W. Burrell, Clapham*	£382

* Accepted.

LONDON.—For the erection of a brick and corrugated-iron shed at the Landor-road depot, for the Vestry of the Parish of Lambeth. Mr. James P. Norrington, Surveyor to the Vestry:—

Blackwall Galvanised Iron Co.	£727	15	
John Lysaght, Ltd.	635	0	
John B. Hollom & Co.	594	0	
W. J. Coleman & Co.	572	0	
Holliday & Greenwood	553	0	
Constructional Ironworks Co.	545	0	
Batley, Sons, & Holness	£537	0	
A. & J. Main	536	5	
David Oxley	530	0	
George Brittain, 247, Kennington-road, S.E.*	436	0	
Charles Leather	412	0	

* Accepted.

LONDON.—For constructing new offices for the teachers of the Alma School, Bermondsey, for refitting the offices of all departments with stoneware troughs and automatic flushing tanks, and for providing a new system of drainage, for the School Board for London. Mr. T. J. Bailey, Architect:—

B. E. Nightingale	£1,245	J. Marsland	£1,085
W. Downs	1,210	Leeks & Hooker, Webber-row*	995
Lathey Bros.	1,179		
Calnan & Co.	1,125		

* Recommended for acceptance by the Works Committee.

LONDON.—For refitting the offices of all departments of the Wood's-road School, Peckham, with stoneware troughs and automatic flushing-tanks, for providing additional offices for the infants department, and a new system of drainage, for the School Board for London. Mr. T. J. Bailey, Architect:—

F. & H. F. Higgs	£1,694	W. Downs	£1,427
W. Hammond	1,654	Calnan & Co.	1,358
Rice & Son	1,654	G. Parker, Peckham*	1,260
Lathey Bros.	1,614		

* Recommended for acceptance by the Works Committee.

LONDON.—For the provision of a manual training centre in connexion with the Deptford Lower-road School, for the School Board for London. Mr. T. J. Bailey, Architect:—

Holt & Sons	£1,830	J. & C. Bowyer	£1,448
B. E. Nightingale	1,542	Mid-Kent Building and Contracting Works, Ltd.	1,405
W. Downs	1,495	J. Marsland, Walworth*	1,370
Akers & Co.	1,459		

* Recommended for acceptance by the Works Committee.

LONDON.—For enclosing, draining, and tar-paving land at the Tooting Graveney School, for new-covered play-grounds, &c., for the School Board for London. Mr. T. J. Bailey, Architect :—

Akers & Co.	£1,727	Mid-Kent Building and Contracting Works * (Ltd.)	£1,623
Garratt & Son	1,689		
Lathey Bros.	1,647		

* Recommended by the Works Committee for acceptance.

LONDON.—For the erection of a school on the site in Bow Creek, Orchard-place, Blackwall, to provide accommodation for 402 children, and for the erection of a school-keeper's house, for the School Board for London. Mr. T. J. Bailey, Architect :—

Lathey Bros.	£10,023 0 0	Holliday & Greenwood	£9,500 0 0
Reed & Son	9,928 0 0	Munday & Sons	9,121 4 2
Wallis & Sons	9,868 0 0	Lawrance & Sons, Wharf-road, N. *	9,113 0 0
Gregar & Son	9,672 0 0		
Grover & Son	9,609 0 0		

* Recommended for acceptance by the Works Committee.

LONDON.—For alterations and repairs to No. 111, Camberwell-grove, S.E., for Mr. G. W. Marsden. Mr. Walter J. Ebbetts, architect and surveyor, Savoy House, 115, Strand, W.C. :—

R. A. Yerbury & Sons	£322 0	Canning & Mullins	£279 0
W. Steel	295 0	W. & H. Castle	276 0
J. R. Tomkins	294 17	W. Smith (accepted)	249 0

MELEDOR.—For the erection of Board School at Meledor, for the St. Stephens-in-Bramwell School Board. Mr. Sampson Hill, architect and surveyor, Redruth :—

White & Thomas	£687	Gilbert & Richards	£536
W. Best	676	Gilbert & Walters	535
T. H. Rodliff	668	Gilbert & Curra, St. Stephens*	513
W. H. Jose	550		

* Accepted.

NEWCASTLE-ON-TYNE.—For the erection of shop and office premises, Westgate-road, for the Salvation Army. Mr. A. Gordon, architect, 101, Queen Victoria-street, E.C. :—

H. Burrows & Son	£3,777 3 0	J. Elliott	£3,280 0 0
J. & W. Lowry	3,747 9 10	J. J. Smith & Co.	2,987 0 0
Thos. Smirthwaite	3,438 8 11	E. Gilder	2,580 0 0
J. C. Hope	3,431 13 4	Thos. Morgan, Wood Green, London*	2,455 0 0
Middlemas Bros.	3,400 0 0		
Thos. Weatherest	3,285 13 4		

* Accepted.

PENARTH.—For the erection of new Baptist Chapel, Stanwell-road, Penarth. Messrs. J. P. Jones, Richards, & Budgen, architects :—

David Davies	£3,770 0 0	G. H. Wilkins	£3,490 0 0
Lattey & Co.	3,750 0 0	E. Turner & Sons	3,488 0 0
A. Berridge	3,710 0 0	John Jones	3,397 16 0
D. J. Davies	3,670 0 0	H. Gibbon	3,380 0 0
James Allan	3,600 0 0	E. F. Richards & Co.	3,116 14 6
J. S. Shepton	3,590 0 0	T. Bevan, Penarth *	3,480 0 0
Marsh & Wride	3,512 15 6		

* Accepted.

[Architects' estimate, £3 354]

PINNER.—For decorating and general repairs of Rugby House, for the Metropolitan Railway Company. Messrs. Pridmore & Anderson, architects and surveyors, Watford :—

	Main Specification.	Specification No. 2.
Brightman	£559 0 0	£28 0 0
Turner	544 0 0	28 0 0
Gould	538 17 6	18 10 0
London & Co.	492 0 0	29 0 9
Lamble	439 0 0	27 0 0
Cowley & Drake	395 0 0	35 0 0
Marchant & Hirst	396 0 0	32 7 6
Head & Son	368 0 0	21 0 0
Wiggs	339 17 6	22 0 0

PLUMSTEAD.—For paving Plumstead and Sladedale-roads, for the Vestry. Mr. W. C. Gow, C.E., Vestry Hall, Maxey-road, Plumstead :—

Tar-paving Plumstead-road.

Hobman & Co., S. Bermondsey * ....
Constable & Co. ....
Fry Bros. ....
T. Adams ....
Bensted & Son ....
Tuff & Miskin ....
} Schedule of Prices.

Paving Sladedale-road.

Mowlem & Co., Westminster * ....
W. H. Wheeler ....
W. Woden ....
Tuff & Miskin ....
T. Adams ....
M. S. Ketteringham ....
F. Bentham ....
} Schedule of Prices.

Tar-paving only.

Hobman & Co. ....
Constable & Co. ....
} Schedule of Prices.

* Accepted.

PONTYPOOL (Mon.).—For the erection of infirmary, Griffithstown, for the Union Guardians. Mr. E. A. Lansdowne, architect, National Bank Chambers, Newport, Mon. Quantities by architect :—

Stephens & Bastow	£7,595 0 0	John Jenkins	£6,350 0 0
Perkins, Parsons, & Co.	7,552 4 7	Henry Parfitt	6,299 0 0
Charles Locke	7,471 0 0	S. Warburton	6,179 0 0
A. H. Bailey & Son	6,995 0 0	Morgan & Evans	5,972 14 0
Wm. Jones & Son	6,864 0 0	John Linton	5,851 0 0
William Church	6,854 0 0	William Price, Pill, Newport *	5,677 0 0
Hatherley & Carr	6,805 0 0		

* Accepted.

PULHAM ST. MARY (Norfolk).—For the restoration of the Baptist Chapel. Mr. Arthur Pells, architect, Beccles :—

Henry Brett	£144	Sy. Brock & Son, Alburgh, Harleston*	£90
Arthur F. Rayner	98		

* Accepted.

RICHMOND.—For erecting the Secondary Schools and Technical Institute for the Surrey County Council. Messrs. Fryer & Bath, architects, Queen Anne's Mansions, Westminster, S.W., and Richmond. Quantities by Messrs. S. & A. E. Bull, Craven-street, E.C. :—

F. Britton	£7,315	Johnson & Co.	£6,870
J. T. Messom	7,275	J. W. Brooking, Richmond*	6,868
Speechley & Smith	6,988		
G. Godson & Sons	6,931		

* Accepted with modifications.

SHELTON (Staffs.).—For the erection of bank premises and four shops, Fenton, for Mr. W. M. Baker. Messrs. R. Scrivener & Sons, architects, Hanley. Quantities by architects :—

N. Bennett	£5,298	T. Godwin	£4,969
C. Corres	5,199	H. P. Embrey	4,906
W. Whitfield	5,100	Tompkinson & Betteley, Longton (accepted)	4,797
J. Bagnall	5,025		
T. Bromage	4,990		

THORNHILL (Yorks.).—For the erection of five cottages, Crossgate. Mr. Jas. C. Haller, C.E., Thornhill, Dewsbury :—

Masonry.—O. Wilcock, Thornhill £495 0 0
Joinery.—S. Oates, Thornhill 788 0 0
Slating and Plastering.—A. Shaw, Mirfield 96 2 6
Plumbing and Painting.—B. Smith, Thornhill 33 5 0

TILLICOULTRY (N.B.).—For the erection of bridge, &c., for the Police Commissioners of the Burgh. Messrs. Buchanan & Bennett, C.E., 24, George-street, Edinburgh :—

Wm. White	£1,289	Millar Bros.	£1,068
James Phillip	1,182	G. & R. Cousin, Alloa*	1,006
Wm. Oliver	1,157	Geo. Lawson	960

* Accepted.

WADDESDON (Bucks).—For new British Schools, offices, and boundary walls at Waddesdon. Quantities supplied. Mr. W. F. Taylor, architect, Aylesbury :—

Wallis & Sons	£2,045 0	Jos. Holland	£1,701 19
H. H. Sherwin	1,863 0	Searey	1,517 0
G. H. Gibson	1,795 0	Chas. Crook, Waddesdon (accepted)	1,497 2
C. H. Hunt	1,793 0		

WELLINGBOROUGH.—For the execution of outfall and sewage disposal works, for the Urban District Council. Messrs. G. & F. W. Hodson, engineers, Wellingborough :—

Wilkinson Bros.	£10,650 0	W. Cunliffe	£9,766 0
Henry Hill	10,539 0	J. F. Price	9,700 0
George Henson	10,127 0	E. Brown & Son	9,349 0
G. Bell	10,097 0	H. Weldon	9,340 0
G. F. Todd	10,074 10	Siddons & Freeman, Oundle (accepted)	9,100 0
Solden Hipwell	10,000 0		
J. H. Vickers	9,872 0		

WORKINGTON.—For the erection of a shop at Seaton, for the District Industrial and Provident Society, Limited. Mr. James Howes, architect, Workington :—

Smith & Marshall	£474 8 10	George Mann, Workington (accepted)	£443 15 0
John Murchie	450 0 0	J. Stewart	443 8 8

WORTHING.—For alterations and additions to fifteen houses, 69 to 97, Clifton-road, Worthing, for Mr. C. Evans. Mr. Robert M. Chart, architect and surveyor, Union Bank Chambers, Croydon, and Vestry Hall, Mitcham :—

J. A. East	£1,603	Frank Sandell	£1,297
J. Ballard	1,517	S. J. Evans	1,189
J. G. King	1,485	P. R. Hubbard	1,170
Alfred Crouch	1,339		

PUBLISHER'S NOTICES.

Registered Telegraphic Address, 'THE BUILDER,' LONDON.

CHARGES FOR ADVERTISEMENTS.

SITUATIONS VACANT, PARTNERSHIPS, APPRENTICESHIPS, TRADE AND GENERAL ADVERTISEMENTS.

Six lines (about fifty words) or under ..... 4s. 6d.
Each additional line (about ten words) ..... 0s. 6d.

Terms for series of Trade advertisements, also for Special Advertisements on front page, Competitions, Contracts, Sales by Auction, &c., may be obtained on application to the Publisher.

SITUATIONS WANTED.

FOUR Lines (about thirty words) or under ..... 2s. 6d.
Each additional line (about ten words) ..... 0s. 6d.

PREPAYMENT IS ABSOLUTELY NECESSARY.

*** Stamps *must not* be sent, but all small sums should be remitted by Cash in Registered Letter or by Postal Orders, payable to DOUGLAS FOURDRINIER, and addressed to the Publisher of "THE BUILDER," No. 46, Catherine-street, W.C.

Advertisements for the current week's issue are received up to THREE o'clock p.m. on THURSDAY, but "Classification" is impossible in the case of any which may reach the Office after HALF-PAST ONE p.m. on that day. Those intended for the front Page should be in by TWELVE noon on WEDNESDAY.

SPECIAL.—ALTERATIONS IN STANDING ADVERTISEMENTS or ORDERS TO DISCONTINUE same must reach the Office before 10 a.m. on WEDNESDAY MORNING.

The Publisher cannot be responsible for DRAWINGS, TESTIMONIALS, &c., left at the Office in reply to advertisements, and strongly recommends that of the latter COPIES ONLY should be sent.

PERSONS Advertising in "The Builder," may have *Replies addressed to the Office, 46, Catherine-street, Covent Garden, W.C., free of charge.* Letters will be forwarded if addressed envelopes are sent, together with sufficient stamps to cover the postage.

AN EDITION Printed on THIN PAPER, for FOREIGN and COLONIAL CIRCULATION, is issued every week.

READING CASES, { NINEPENCE EACH. By Post (carefully packed), 1s.

THE "BUILDER" CATHEDRAL SERIES

ENGLAND AND WALES.

In each case—EXTERIOR VIEW, specially drawn for this series, GROUND PLAN, to a large scale, shaded to indicate the date and style of the several parts; DESCRIPTIVE ARTICLE, with sketches of details, &c.

*1. Canterbury	9. Norwich	17. Llandaff	24. Truro
*2. Lichfield	10. Rochester	18. Oxford	25. St. David's
*3. St. Alban's	*11. Lincoln	19. Southwell	*26. York
*4. Peterboro	*12. Gloucester	20. Worcester	*27. Ripon
*5. Wells	13. St. Paul's	21. Bangor and 22. St. Asaph	*28. Chester
*6. Exeter	14. Hereford		29. Manchester
*7. Salisbury	*15. Chichester		30. Carlisle
8. Bristol	16. Ely	*23. Winchester	*31. Durham

*Post-free FOURPENCE-HALFPENNY each, except 1, 2, 3, 4, 5, 6, 7, 11, 12, 15, 23, 26, 27, 28, and 31, the numbers of "THE BUILDER" containing these being OUT OF PRINT; but reprints of the VIEW, PLAN, AND DESCRIPTION OF CANTERBURY, LICHFIELD, ST. ALBAN'S, PETERBOROUGH, WELLS, EXETER, SALISBURY, LINCOLN GLOUCESTER, CHICHESTER, WINCHESTER, YORK, RIPON, CHESTER, and DURHAM, can be had, price 1s. each. Postage and packing of reprints extra; single sets, 2d. or the fifteen sets together, 9d.

☞ [The whole series (including reprints) 29s, post-free, 21s. 6d.]

SCOTLAND.

1. Glasgow	4. Kirkwall	6. Dunblane	8. St. Andrews
2. Edinburgh	5. Iona	7. Dunkeld	9. Brechin
3. Aberdeen			10. Elgin.

Price 4½d. each, or the complete Series 3s. 4d. post-free.

IRELAND.

1 St. Patrick | 2. Christchurch | 3 Kilkenny.

Price 4½d. each, or the complete Series 1s. 1d. post-free.

THE ABBEYS OF GREAT BRITAIN.

1894.		1895.	
1. Westminster	JAN.	8. Fountains	JAN.
2. Rievaulx	JULY.	9. Tynemouth	FEB.
3. Glastonbury	AUG.	10. Malmesbury	MARCH.
4. Croyland	SEPT.	11. Netley	APRIL.
5. Whitby	OCT.	12. Bolton	MAY.
6. Bath	NOV.	13. Lindisfarne	JUNE.
7. Tewkesbury	DEC.	14. Furness	JULY.

Post-free FOURPENCE-HALFPENNY each.

THE REREDOS, ST. PAUL'S

(15 in. by 11¼ in.), on stout paper, for framing, 6d.; by post, 8d.

PORTFOLIOS

for Preserving the Plates unfolded, 2s. 6d.; by post, 3s.

London: Publisher of "THE BUILDER," 46, Catherine-street W.C.

TO CORRESPONDENTS.

G. T. (amount should have been stated).—H. T. G. (below our limit).—J. B.—T. C. B.—O. C. R.—T. S. M'C. (amounts should have been stated).

We are compelled to decline pointing out books and giving addresses.

NOTE.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

TERMS OF SUBSCRIPTION.

"THE BUILDER" is supplied DIRECT from the Office to subscribers in any part of the United Kingdom, at the rate of 19s. per annum PREPAID. To all parts of Europe, America, Australia, New Zealand, India, China, Ceylon, &c., 26s. per annum. Remittances (payable to DOUGLAS FOURDRINIER) should be addressed to the publisher of "THE BUILDER," No. 46, Catherine-street W.C.

SUBSCRIBERS in LONDON and the SUBURBS, by prepaying at the Publishing Office, 19s. per annum (or 4s. 9d. per quarter), can ensure receiving "The Builder," by *Friday Morning's Post.*

THE BATH STONE FIRMS, Ltd.
BATH,
FOR ALL THE PROVED KINDS OF
BATH STONE.
FLUATE, for Hardening, Waterproofing, and Preserving Building Materials.

DOULTING STONE.
CHARLES TRASK & SONS,
(THE DOULTING STONE COMPANY),
DOULTING, SHEPTON-MALLET.
London Agent:
E. A. WILLIAMS, 16, Craven-st., Strand, W.C.

HAM HILL STONE.
The attention of Architects is specially invited to the durability and beautiful COLOUR of this material. Quarries well opened. Quick despatch guaranteed. Stonework delivered and fixed complete. Samples and estimates free. Address, The Ham Hill Stone Co., Norton, Stoke-under-Ham, Somerset. London Agent: Mr. E. A. Williams, 16, Craven-st., Strand, W.C. [ADVT.

Asphalte.—The Seyssel and Metallic Lava Asphalte Company (Mr. H. Glenn), Office, 42, Poultry, E.C.—The best and cheapest materials for damp courses, railway arches, warehouse floors, flat roofs, stables, cow-sheds and milk-rooms, granaries, tun-rooms, and terraces. Asphalte Contractors to the Forth Bridge Co. [ADVT.

SPRAGUE & CO.
LITHOGRAPHERS AND PRINTERS.
Estate Plans and Particulars of Sale promptly executed.
4 & 5, East Harding-st., Fetter-lane, E.C. [ADVT.

QUANTITIES, &c., LITHOGRAPHED accurately and with despatch.
METCHIM & SON, 20, Parliament-st. S.W.
"QUANTITY SURVEYORS' TABLES AND DIARY, For 1895, price 6d. post 7d. In leather 1/- Post 1/1 [ADVT.

W. H. Lascelles & Co.,
121, BUNHILL ROW, LONDON, E.C.
Telephone No. 270.
HIGH-CLASS JOINERY,
LASCELLES' CONCRETE
Architects' Designs are carried out with the greatest care.
CONSERVATORIES,
GREENHOUSES,
WOODEN BUILDINGS,
Bank, Office, & Shop Fittings.
CHURCH BENCHES & PULPITS.
ESTIMATES GIVEN ON APPLICATION.

95.

(before you should have

and

ers should

ed to THE

L.

RES, by
num (or
Builder,'

, Ltd.

ofing,

E.

L LE2.

, W.C.

pecially
OLOUR
Quick
livered
es free.
Stolp.
E.A.
ADVT.

Law
ce, 43,
ials for
floors,
rooms,
plicable
ADVT.

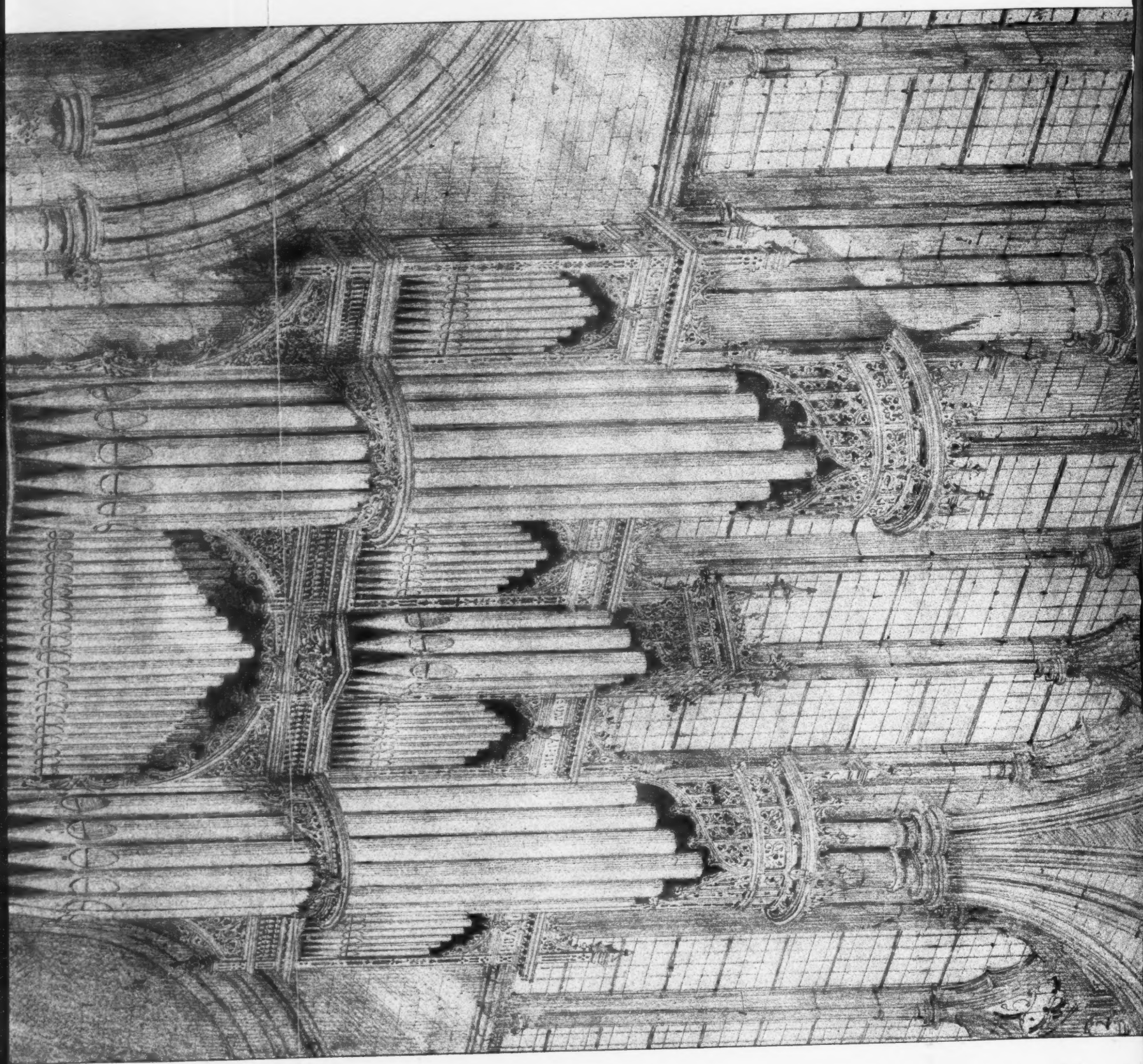
RS.
mptly
ADVT.

PHED
S.W.
ART,
ADVT.

O.,
.C.

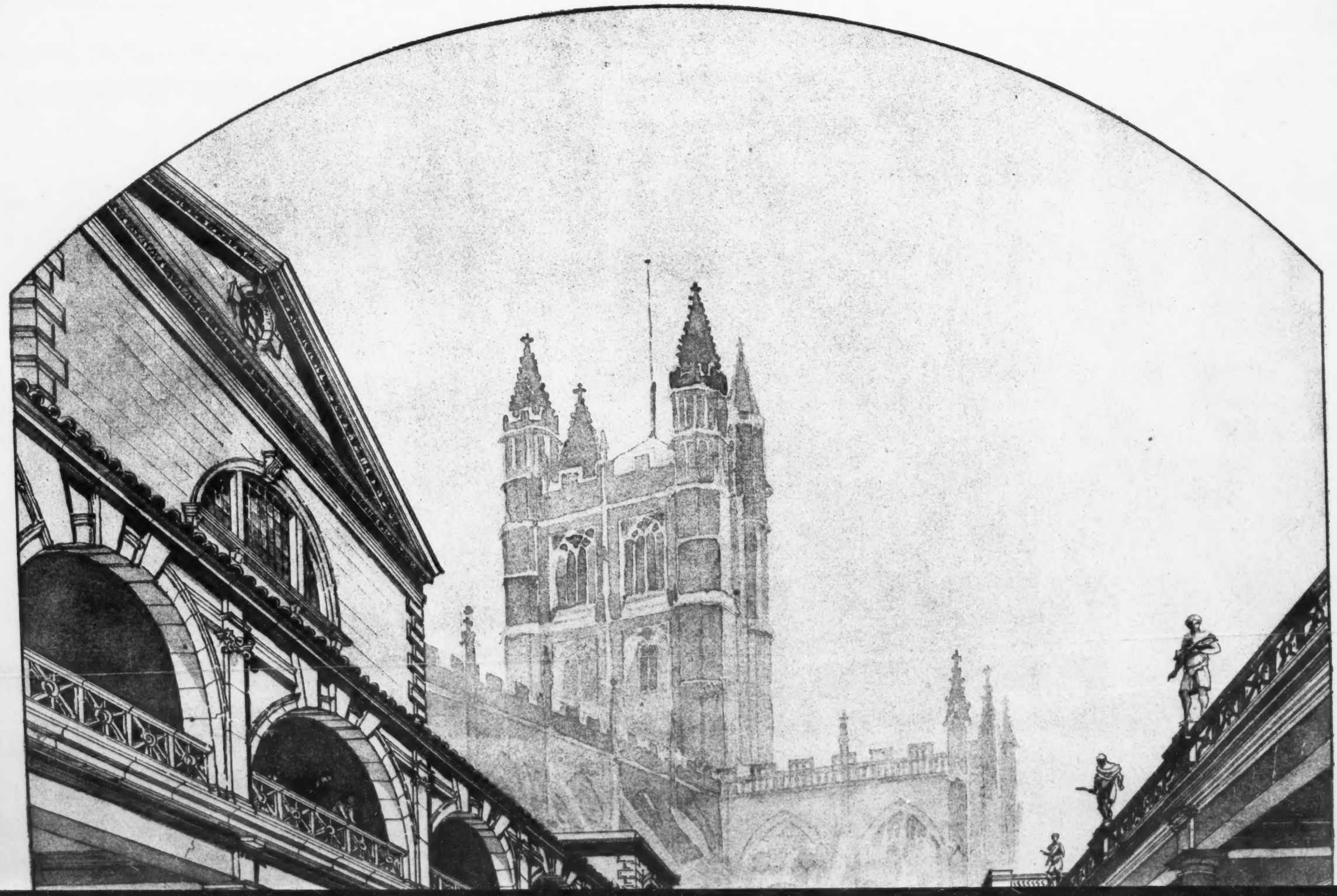
ETE
h the

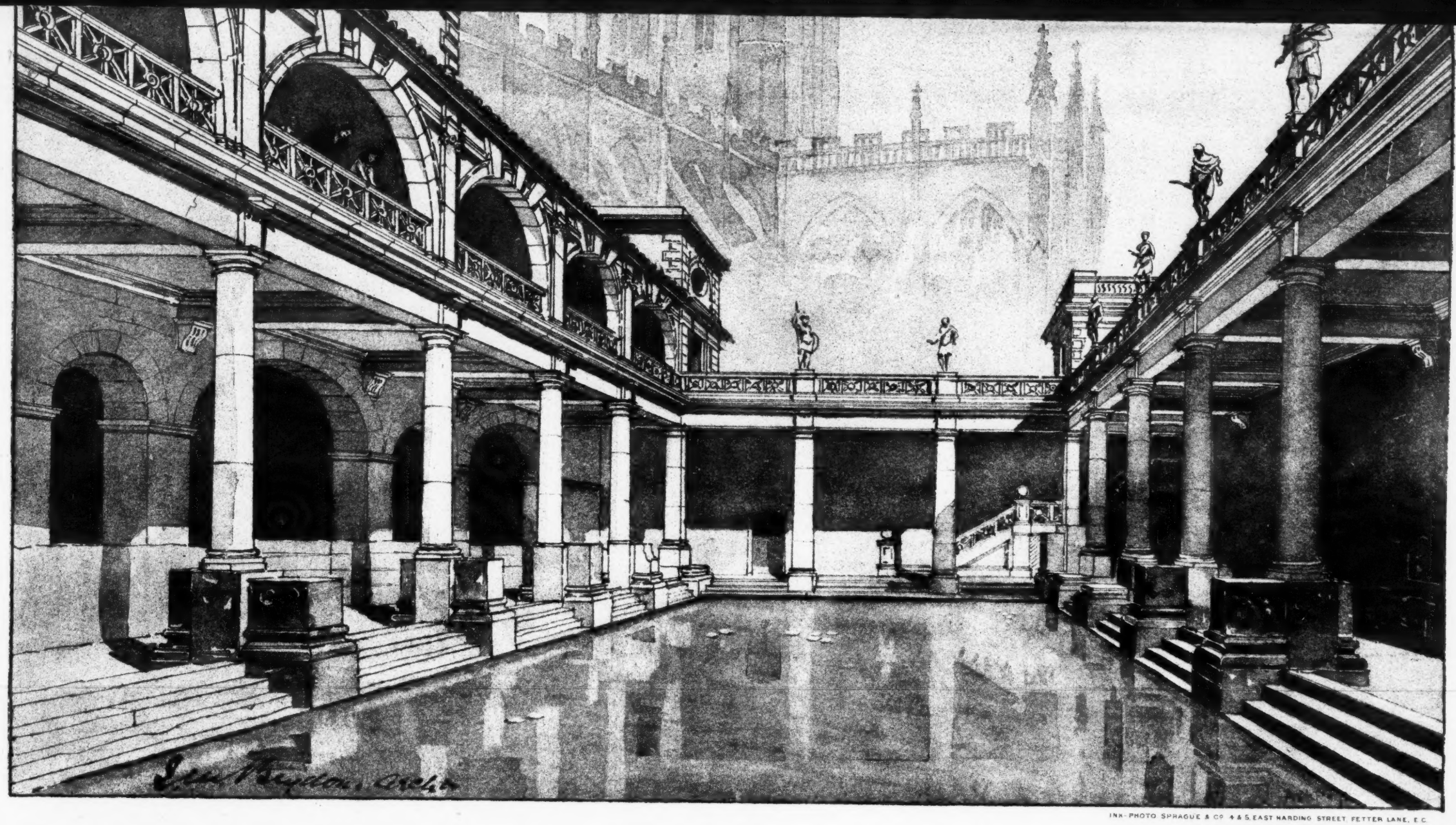
gs.
TS.
ION.



INK-PHOTO. SPRAGUE & Co 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

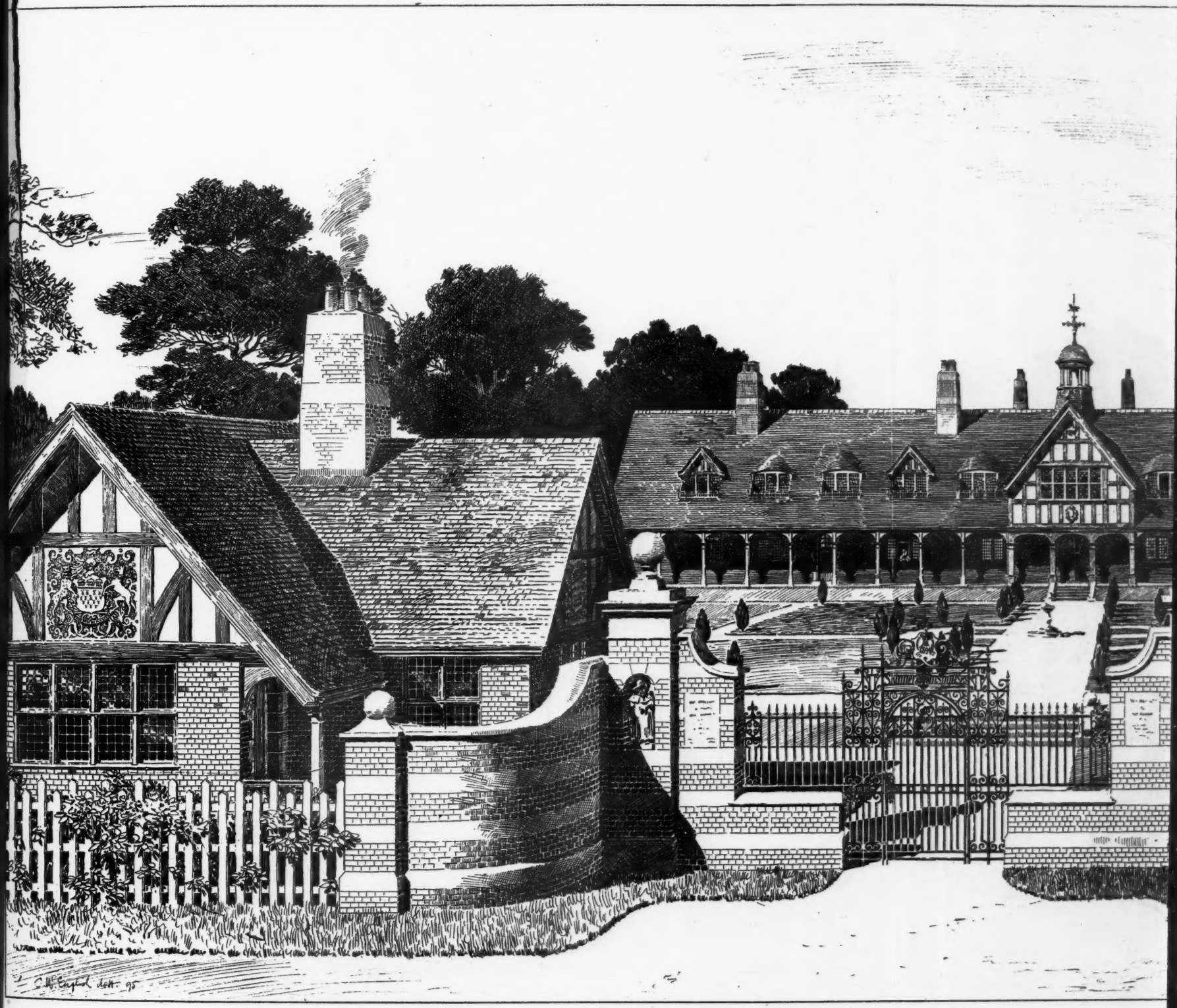
ORGAN CASE, SOUTH TRANSEPT, ST. SAVIOUR'S CHURCH, SOUTHWARK.—Sir Arthur W. Blomfield, A.R.A., Architect.





INK-PHOTO SPRAGUE & Co 4 & 5 EAST HARDING STREET FETTER LANE, E.C.

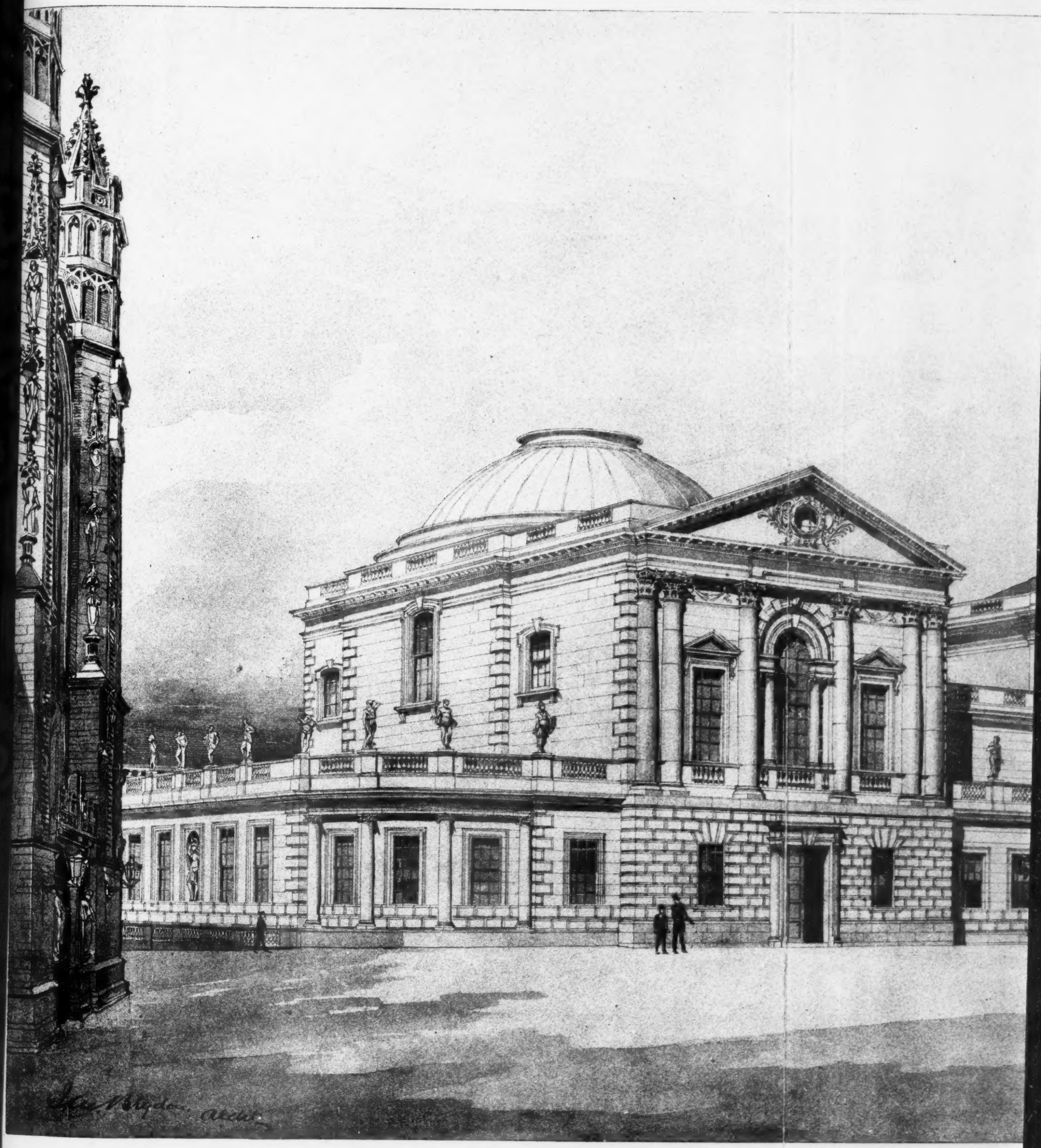
INTERIOR OF ROMAN BATH, BATH AS INTENDED TO BE TREATED.—Mr J. M. Brydon, F.R.I.B.A., Architect



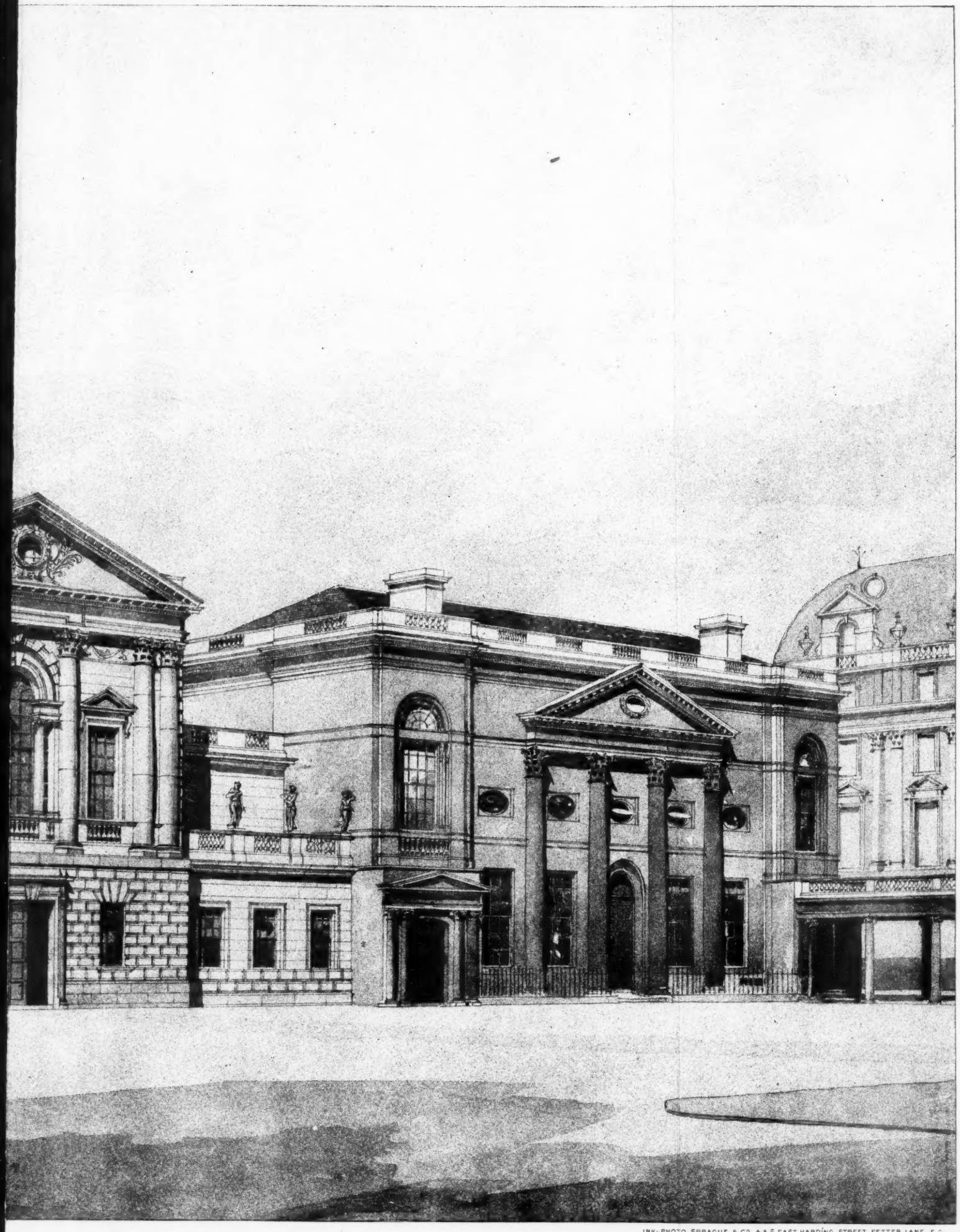
NEW ALMSHOUSES AT PALMER'S GREEN FOR THE SKINNERS' COMPANY.—Mr. W. Ca

PHOTO-LITHO. SPRAGUE & Co 4 & 5 EAST HARDING STREET FETTER LANE E.C.

SKINNERS' COMPANY.—Mr. W. Campbell Jones, A.R.I.B.A., Architect.



PUMP ROOM BUILDINGS, BATH: REVISED DESIGN EXTERIOR VIEW.—Mr. J. M.



INK-PHOTO. SPRAGUE & Co 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

SIGN EXTERIOR VIEW.—Mr. J. M. Brydon, F.R.I.B.A., Architect.